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HANDBOOK

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EVERY MOTHER'S HANDBOOK.

DEDICATED
TO
DR. A. ZINNIS,

PROFESSOR OF DISEASES OF CHILDREN.
UNIVERSITY OF ATHENS,
AS
A TOKEN OF ESTEEM.

EVERY MOTHER'S HANDBOOK

A GUIDE TO THE

MANAGEMENT OF HER CHILDREN

FROM

Birth, through Infancy, and Childhood

WITH INSTRUCTIONS FOR

PRELIMINARY TREATMENT OF ACCIDENTS AND ILLNESSES

BY

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LONDON :

SIMPKIN, MARSHALL, HAMILTON, KENT & Co., Limited,
23, Paternoster Row.

BRUMBY & CLARKE, LTD., 5, FARRINGDON AVENUE, E.C., AND HULL

1897.

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INTRODUCTION.

Every thinking person will admit that all young mothers should be carefully and minutely instructed in all that concerns the rearing of their children from birth upwards. The welfare and happiness of the human race depend very largely upon the judicious and enlightened treatment of childhood in its early years. Health is so important for mankind that its foundations should be laid in youth, and who more likely or better designed to do this than the mother. She is the one who nature has appointed to rear the tender child from feeble infancy to strong adult life, and woe betide her and it if she fail in her solemn duty.

It is a well-known fact that many mothers are ignorant of those things which they ought to be acquainted with, such as—the proper feeding, clothing, nursing, and general rearing of a child, and the treatment of those diseases and accidents to which it is liable. This unavoidable want of knowledge may be remedied by reading, and more accurate information may thus be acquired than by asking this person or that.

I have endeavoured in this book to supply in a readable form and in the plainest language, everything that a mother should know, from the smallest detail of

INTRODUCTION.

nursing, to the treatment of the severest disease or accident. I wish to remove all uncertainty from her mind, so that she may always do the right thing at the right time.

It must not be thought that I have any desire to make people into complete physicians, as this is impossible without very special training, but I do hold that the essentials of medicine and surgery may be taught with advantage to all, and especially to mothers and those who have the care of children. To such, medical and hygienic knowledge is of vital importance. It must not be forgotten, however, that in all severe illnesses a medical man should be called in immediately, as no mother should attempt to treat a serious complaint without assistance. All that this book is intended to teach her is—how to act rationally in every emergency, and in what manner to keep her children in the best of health. It is my sincere hope that this work may prove of use to every mother throughout the land, and may lead to a great saving of youthful life.

HENRY ARTHUR ALLBUTT.

24, PARK SQUARE,
LEEDS.

January, 1897.

Every Mother's Handbook,

A GUIDE TO THE

Management of her Children.

CHAPTER I.

The Management of the Baby immediately after Birth.

Birth. When a baby is first born, if it is healthy, it should at once begin to breathe, to cry out loudly, to open its eyes, and to kick its limbs about freely. It may now be immediately separated from its mother. To do this the navel-string or cord must be tied and then cut, a duty which, in the absence of the doctor, usually devolves upon the nurse.

The navel-string is cut in this manner:—

Navel. The nurse takes two pieces of white tape, about half an inch wide, which she damps in luke-warm water. One piece must be tied firmly round the navel-string about two inches from the baby's body, and the other piece about two inches from that again towards the mother, and the space between the tapes must be cut through with scissors. Clean tape is preferable to thread or silk for tying the cord, as it ligatures firmly without cutting into it.

First Attentions. As soon as the child is born and the cord has been cut, it should be wrapped in a piece of warm soft flannel, and put away for half-an-hour or so, till the mother has had necessary attentions paid to her. It

should be placed near the fire, not directly in front of it, but at one side, and quite out of all draughts. Care must be taken that a little space be left open in the flannel over the baby's face to let in air, otherwise it might be suffocated.

Sometimes a baby is born in a very feeble

Still Birth. condition, or even looks to be quite dead.

Its limbs are motionless, its head falls, and its mouth gapes open. This is what is called "still birth." It is quite possible, however, to restore life in this condition. Very energetic treatment must be resorted to at once. The baby's mouth must be cleared of mucus by means of the finger. If its face is blue a tea-spoonful or so of blood should be allowed to flow from the cut navel-string before tying it. Cold water should be sprinkled on the face and chest, the buttocks should be slapped, and a little brandy or whisky rubbed into the chest. This is done to make the baby cry, and so draw air into its lungs. If the baby, however, does not breathe by these means, it should be dipped four or five times, first into a basin of hot, and then into a basin of cold water, or it should be held up by its feet for a few seconds so as to cause the blood to go to its head. If these means of restoring life are still unavailing, it will be necessary to try and make the infant breathe artificially.

Schultze's method of artificial res-

Artificial Respiration. piration is the best and simplest. The baby's shoulders must be seized by putting the first finger in each arm-

pit and bending the thumbs over the shoulders so as to touch the ends of the fingers. The whole weight of the child's body thus rests within the rings made by the thumb and first finger of each hand. Hanging perpendicularly in this manner, the infant's ribs are lifted out and its chest expanded, and air is drawn into its lungs. The body of the infant should now be swung forward with some degree of force at arm's length, the arms of the operator being raised a little above a straight line. The motion should be stopped suddenly with a jerk. This causes

the child's chest to become fixed and its legs to topple over on to its abdomen. In this position the organs in the abdomen press against the muscular floor of the chest, and air is forced out of the lungs. The child's body is now returned to the perpendicular position by a rapid motion. The two motions occupy about eight seconds, and should be repeated about eight times a minute. After practising this method for about five minutes, the infant should be placed in a warm bath for two or three minutes, as the swinging movement causes it to lose some of the heat of its body.

Sylvester's method might also be tried. The baby should be laid on its back, with its head and shoulders a little raised. Its arms must be grasped above the elbows, and drawn steadily upwards, and they must be kept so stretched for a few seconds. They must then be brought slowly down again, and firmly pressed against the sides of the chest. These movements must be executed about twelve times a minute.

Marshall Hall's method consists in rolling the infant; first on its face, and then on its back, at regular intervals.

Another way to bring about respiration might be tried. A thin towel is placed over the baby's mouth, and the operator taking a deep breath, gently and quickly blows into the child's mouth, and then slowly depresses its chest. In this manner the child's lungs can be filled and emptied of air ten or twelve times a minute. During this operation, the child's nose should be left entirely free.

Either one or the other, or all of the above ways of trying to make a "Still-born" baby breathe artificially, should be persevered with for a couple of hours if necessary, for it is quite possible to restore a child to life as long as a single beat of the heart is to be felt.

Washing the Eyes. As soon as the mother has been made comfortable, the nurse turns her attention to the infant. Her first duty should be to look to its eyes. Now, a baby's

eyes are extremely delicate and soon irritated, and the matter, which is often adhering to the lids and corners at birth, if not soon removed, works its way into the eyes and frequently sets up inflammation, which, in some cases, might terminate in loss of sight. It is essential to clear this matter completely away. The eyes should be very gently washed in perfectly clean water which has just been boiled and allowed to cool down to lukewarm. A piece of clean soft linen rag or a clean new sponge, free from all sand or grit should be used. After using, these should be at once burnt and not used again. The eyelids must be cleaned gently and not rubbed with force, for the eyes of a baby are very soon injured with violence.

After washing and drying the eyes, they should be well bathed with a boric acid lotion. This lotion is easily prepared by mixing a quarter of an ounce of boric acid, (obtained of any chemist,) with half a pint of recently boiled water. The lotion should be used lukewarm.

As soon as the head of the baby is born, it is always well, if opportunity permits, to wash its face with warm water, and to cleanse and carefully dry its eyes. The eyes might also, at this stage, be bathed with the boric acid lotion.

The nurse now proceeds to wash the **Washing** infant. It must be cleansed from all the impurities by the aid of warm water and **Baby.** soap. A newly born baby's first bath differs somewhat from those that succeed it during infancy. This arises from the fact, that at birth the skin of the infant has adhering to it, a peculiar tenacious paste-like substance. This material is secreted by the glands of the infant's skin whilst it is in the womb, and no doubt forms a kind of protective covering or varnish for the skin of the foetus*. After birth, however, if it is allowed to remain long on the skin it becomes dry and hard, and is apt to seriously interfere with the healthy action of the skin, and set up excoriations and eruptions.

* The infant whilst in the womb is called a foetus.

In order to remove it, every part of the baby's body should be smeared with fine hog's lard or with olive oil. This should be gently but thoroughly rubbed in with a small piece of flannel, until the whole of the paste-like substance has been completely softened and loosened. Then all should be washed off with a sponge saturated with warm water and soap, and the washing should be completed by immersing the body in warm water for a couple of minutes. Care must be taken in this first washing of the infant, not to touch the eyes with the flannel or sponge which has been used to cleanse the rest of the skin with. The eyelids of an infant must always be washed with perfectly clean water and a separate piece of sponge. The sponge and flannel used for the first washing, must be burnt and on no account used a second time.

Warm water must *always* be used

Warm Bath. for the bath of a new-born infant.

The temperature should be ninety-eight degrees Fahrenheit.* It should be remembered that the infant has been suddenly removed from a temperature of ninety-eight degrees to a much lower temperature, and this alone should indicate how essential warmth is to the life and well-being of a newly-born child. I draw attention to this because there are some people who advocate bathing infants from the first in nearly cold water, with the idea of hardening them. Cough, bronchitis, inflammation of the lungs, and even death are only too likely to follow if the advice of such people is adopted. The duration of the first bath ought not to exceed five minutes.

Again, some nurses add brandy or

Avoid Spirits. other spirits to the water in which a baby is first washed. Or if they don't do this, they wash the baby's head with the brandy, for the purpose they say, of strengthening it. Now, this is decidedly improper, and must never be done, because the spirit evaporates very rapidly, and

* The Regulation of the temperature must not be trusted to the hand. A nursery thermometer must always be used.

quickly produces a sensation of cold, which is both unpleasant and injurious to a newly-born child, by depriving it of some of its natural heat.

Drying. A large flat pillow should be ready prepared, and covered over with two or three large soft warm napkins, on

which to lay and dry the baby immediately it is taken from the bath. The pillow should be laid across the nurse's knees. She will thus be enabled to dry the baby in a very short time. Every part must be patted perfectly dry with a soft warm towel—on no account scrubbed. The arm-pits, between the thighs, the groins, and the hams, must be entirely freed from all moisture, and the ears must also be well dried. The baby must not be roughly handled during the drying process, as the bones of an infant are so soft as to be incapable of sustaining its own weight, and therefore, it cannot be held up by the hand without inconvenient pressure.

The body of the infant being dried, very gentle rubbing with the naked palm over the whole surface, and especially on each side of the spine, should be employed till a genial glow is excited.

Directly after the infant is dried all the parts which are likely to chafe should be well powdered with a puff. The best powders to use are either rice powder or finely powdered Fuller's earth, of which latter Matthews's Fuller's Earth (obtained of all Chemists) is preferable for fineness and purity.

Attention to Navel-string. The infant having been washed and dried the next thing to be done is to attend to the remains of the navel-string.

It should first be washed with the boric acid lotion (as used for the eyes). The ligature should be examined to see that it is holding tight, and that there is no bleeding from the cut ends of the navel-string. All being right the navel-string should now be wrapped up and secured in the following manner:—

The nurse should wrap round the navel-string a piece of clean soft linen rag. It should be wrapped round just the same as a rag on a cut finger. The rag should be kept on by tying it with a few rounds of thread. The navel-string thus covered is laid flat on the abdomen of the child, pointing upwards, and is supported in a proper position by means of a flannel belly-band passed twice round the body.

It may be well to mention here that some nurses use singed rag for wrapping up the navel-string. This should not be done as the singed rag often irritates the baby's skin. Perfectly clean white linen rag or cotton wool are the materials to use.

The flannel belly-band should be about five or six inches wide, and it should be a strip cut slant from the piece, so that it may be perfectly elastic. It should be put on sufficiently loose to admit of the easy introduction of the finger under it. If the binder is put on too tight it will cause uneasiness, pain, and some difficulty in breathing by interfering with the proper action of the muscles of the abdomen. It also tends from the undue compression to favour the occurrence of rupture, from pressing the bowels downwards when the child cries, coughs, or strains, and forcing them through the natural openings in the sides of the belly. The belly-band should be worn some four or five months, and if the parts about the navel appear weak and ready to yield from the pressure of the bowels, the band should be continued for some months longer. The object of the belly-band is to give general support to the body, and particular support to the navel, it should therefore be applied in such a manner so as to give support in all directions without being tight or uncomfortable. The band should always be fastened with the needle and thread. If, however, pins are used they should be the patent safety-pins.

**Bleeding of
Navel.**

Sometimes the navel-string after being secured will start to bleed. This usually arises from the fact

that the vessels of the navel-string, which before were distended with blood, will collapse and the tape ligature will become loose, or it may arise from the cord having been carelessly tied.

To arrest the bleeding the baby's clothes and belly-band must be removed, and the wrapping taken from the navel-string. Then a new ligature, composed of five or six strands of strong linen thread, or a length of fresh tape must be tied round the cord thoroughly, but not so tight as to cut the cord. The bleeding being arrested the cord should be fastened up in rag or cotton wool as before and the belly-band re-applied.

The navel-string usually separates **Separation of** from the infant in from five days to a **Navel-string.** week after birth. In some cases, however, it does not drop off till ten, fourteen, or even twenty-one days.

The navel-string must not be pulled at any time, but must be allowed to separate of itself, and the parts about it must be kept dry and clean. Meddlesome interference with the navel-string has often caused much suffering to the child and has even lead to the loss of life.

Sometimes, after the cord has fallen off, a kind of growth, about as large as a pea, will appear on the navel with a kind of discharge. This can soon be cured by dusting a little powdered alum over the part and dressing afterwards with some oxide of zinc ointment spread on lint.

Now and then the navel excoriates and this inflammatory excoriation extends rapidly to the surrounding skin. Warm water dressings should be applied, or boracic ointment spread on linen rag or lint. If these fail to check the inflammation the doctor's attention must be called to it.

If bleeding takes place from the navel after the separation of the cord (a rare occurrence), the doctor must be sent for immediately, and in the meantime, the point of the finger must be pressed steadily, but gently, over the bleeding part.

A sort of bleeding growth may appear at the navel. This form of bleeding may be quickly stopped, by winding a piece of very narrow tape closely around the growth, and leaving it undisturbed. In a short time the growth sprouts over the tape, becomes strangulated, and drops off.

Whilst speaking of the management **Navel Rupture.** of the navel, it will be well to mention here *Navel rupture*. The navel-string or cord by means of which the infant is nourished in the womb, before birth, is composed of several blood vessels, which enter into and depart from the middle of the child's abdomen; the passage of these vessels renders it necessary that a hole should pass entirely through the covering of the bowels, which generally closes very quickly and soundly, after the separation of the navel-string. Certain circumstances, however, may prevent the natural closing of this hole, and thus a portion of the bowels may be partially forced through this imperfectly closed opening, by any sudden or strong exertion, such as crying, coughing, or sneezing. Great attention must therefore be paid to the condition of the navel. The navel-string should never be pulled to try and get it off, if it is longer in dropping off than usual. It should be left to fall off naturally. Meddlesome interference is a frequent cause of navel-rupture. Constant crying on the part of the child may produce this form of rupture, and the rupture may also cause the infant to cry incessantly. A constantly crying child should therefore have his navel very carefully examined.

Navel-rupture must always be attended to at once. It can only be cured in very early life. It is impossible to cure it in the adult. It can then only be relieved. In the majority of cases a cure may be effected in a period varying from one to six months, by the application of what is called an umbilical button. This consists of a disc made of either hard rubber, silver, or aluminium, hollowed out at one side and rounded at the other. It is placed with its rounded or convex

surface over the navel, and is held in position by a broad band of adhesive plaster.

After the navel-string has dropped off, the navel is sometimes a little sore; in this case apply a small bread or linseed meal poultice every night, and a little boracic ointment spread on lint every morning.

When the child is strong enough, it **Dressing.** should now be dressed, then laid in the cot, and allowed to go to sleep; but if it appears to be fatigued by the washing and drying, and is a feeble baby, it is then best to wrap it up loosely in a flannel or blanket, and put it to sleep, the dressing being delayed till it awakes refreshed. The clothing should be warm, light and loose, and not calculated to place the slightest restriction upon the movements of the limbs. A cap should not be worn, the baby's head requires to be kept cool. Some mothers have a flannel cap in readiness to put on as soon as the baby is born. This is quite unnecessary and is often hurtful, in some cases producing inflammation of the eyes from over heating the head. The baby's hair is much more likely to grow strong and thick if a cap is not worn.

The use of clothing is to defend from **Clothing.** cold, the child should therefore be wrapped in soft loose clothing, not of too great a weight. In dressing infants, there ought to be as few pins used as possible, and these should always be the patent safety pins; tapes and strings should, therefore, supply the place of pins whenever they can be made to answer the purpose. All the clothing of a baby worn next to the skin, should be wool. I shall have more to say in another chapter on the subject of infant clothing.

The napkin or diaper, (which must be **The Napkin.** worn from the first,) should consist of linen, which is less heating and less liable to cause chafing of the skin when wet than muslin or other material. It must be fastened with safety pins, and folded in such a way as not to cause discomfort by too

much pressure on the back or abdomen. "Sanitary towels," if not too thick, also make good napkins. They are soft and absorbent and do not chafe.

If an infant is feeble at birth, or **Feeble Infant.** prematurely born, great care will be required for some time to keep it alive. Uniform warmth and breast-milk are indispensable, with constant watchfulness. Life, in these cases, hangs so feebly in the balance, that it may flicker out in a moment. The doctor should always be consulted when a baby is premature or feeble. It may be necessary to use an *incubator*.

Putting to Breast. As soon as the mother is sufficiently refreshed by sleep to suckle her child, the baby should be put to the breast—some four to eight hours after birth.

At this early date no milk can be drawn, but the breasts contain a kind of thin watery fluid called *Colostrum*, which gives sufficient nourishment to the infant, and which being also of a slightly aperient nature effectually clears out from the child's bowels the greenish or black and viscid matter which has collected in them during its life in the womb. This matter is called the *Meconium*. The putting of the child early to the breast is of great advantage to the mother as it causes her womb to contract, and thus lessens the chance of "flooding"; it also draws out the nipples and encourages the formation of milk.

Errors in Feeding. It is usually the third day after labor that milk is fully secreted in the breasts. The colostrum is, therefore, the only food that the infant requires before

that time. How often do ignorant nurses fill a two days' old baby's stomach with gruel, sugar and water, and other mixtures under the idea that it will starve, when nature has provided a suitable food in the first secretion of the mother's breast to supply all the infant's wants for the first three or four days. If the child is put to the mother's breast every two hours whilst she is awake, there need be no fear of starvation. The

very act of sucking, too, gets the child early into the way.

The giving of gruel to a new-born baby is a thing I must strongly condemn. Babies fed from the first on gruel generally become feeble, have disordered stomachs, and when put at last to the breast often refuse to take it. Besides, if the colostrum is not drawn from the breasts inflammation or abscesses may arise in them with great suffering to the mother.

Sometimes it is noticed that when

Tongue Tie. the baby is put to the breast he refuses to suck, or is unable to apply his tongue properly to the nipple. This usually arises from being tongue-tied. The doctor can remedy this in a moment by dividing the bridle of the tongue with blunt-pointed scissors. This little operation will enable the baby to take the nipple with ease and comfort.

Artificial Food. Supposing that after the third day the breasts should not secrete a supply of milk, it might be well to give the baby

a mixture of one third of new milk, and two thirds of warm water slightly sweetened with sugar of milk (or with brown sugar if its bowels have not been opened). It should be given in small quantities every four hours, the baby being put to the breast in the meantime.

On the fourth day the milk is usually secreted, and then the artificial nourishment must be discontinued, and regular suckling commence.

Application to Breast. The baby must be applied *alternately* to each breast. One breast must be used for one meal, and the other for the next, and so alternately with great regularity. If mothers would always use both breasts in nursing, rarely should we see "a gathered breast."

A healthy baby should be allowed to suck until satisfied, when he will drop the nipple of his own accord, and fall asleep.

Should the flow of milk be hindered by the nipples being unusually short and small, they should be fomented with a soft sponge dipped in warm water, and the infant be frequently applied to them.

It is advisable always before placing the infant to the breast to wash the nipples with warm water (previously boiled, and allowed to cool sufficiently); and again after nursing.

Squeezing Breasts. An ignorant nurse will sometimes squeeze the breasts of a newly-born female infant, to "break the nipple-strings" as she says, or to press out milk, the presence of which is very doubtful. I mention this practice to strongly condemn it, it is barbarous and unnecessary, and often leads to abscess of the breasts, and destruction of their function in maternal life. In any case it gives rise to pain, and feverishness.

It is quite true that at birth or a day or two after, the breasts of an infant may swell, and become hard and painful, and that sometimes there is a kind of oozing of a milky fluid from the nipple. If pressure, however, is made to remove this fluid, inflammation is almost sure to be set up. The best treatment is to *let alone*. If there is much redness and swelling, and the breasts are hard and tender to the touch, it might be advisable to apply frequent hot water dressings till the swelling goes down.

Baby's Bowels As I have previously mentioned there is found in the bowels of an infant at birth an accumulation of a dark green substance, very similar in appearance to syrup of poppies, and hence called *meconium*. This varies in quantity in different children. Of course if it does not readily pass off but is retained in the child's bowels, it may be productive of mischief. As a rule it comes away early and readily, without having to resort to artificial means. The fluid called *colostrum*, which is contained in the mother's breasts at the time of birth, is of a slightly aperient quality, and upon the

first sucking application of the infant, acts on its bowels and brings away the *meconium*. This is one of the advantages to be derived from putting the child to the breast very early, for, if this be neglected until the secretion of perfect milk takes place, the *colostrum* becomes too much diluted to act as an aperient, and then other means may have to be resorted to, to expel the *meconium* from the baby's bowels.

If the *meconium* does not come away naturally in the first day or two after birth, some gentle aperient is indicated. The best artificial aperient for a new-born baby is pure moist sugar as obtained from the grocer. Half a tea-spoonful of this should be mixed with one tea-spoonful of warm water, and given to the baby. If it does not act in four hours, the dose should be repeated. If a stronger aperient is required at this stage of infant life, the medical man should be consulted. I must protest most strongly against indiscriminate dosing of infants with purgatives, which often do more harm than good. Many a child has been injured in health by castor oil, calomel, and other drugs. The simpler and more natural the aperient in early infancy and the better. In fact a healthy baby seldom needs more than what I have indicated. Elsewhere I shall have more to say on this matter.

The nurse should inject into the baby's bowel, within a few hours after birth, one table-spoonful of warm water, to see if the entrance to the lower bowel—*the anus* as it is called—is quite free. If the water returns as fast as it is injected, there is closure of the bowel at its entrance, and the doctor's attention must be directed to the matter. It is well, also, to notice whether the child passes water within twenty-four hours of birth.

CHAPTER II.

Health Hints for the Mother during the Month.

If the mother desires her child to be strong and healthy, she will take special care of her own health during the first month after her confinement. Her qualification and capability to supply the young babe with sufficient healthy nourishment depend very largely on her own condition of health. It is requisite, therefore, that she should be advised on many matters concerning the care of herself, so that she may be able to suckle her child with comfort to herself and advantage to it.

Anything which tends to produce or increase fever should be carefully avoided, such **Milk Fever.** as too early sitting up, exposure to colds or draughts, too stimulating food, over-heating of the room, lack of proper ventilation, and seeing company too early. Any of these is apt to induce a feverishness of the system which may terminate in so-called *milk fever*. I have known many cases where this condition of fever has been brought on from the patient having indulged early after her confinement in the use of animal food, rich broths or soups, ale or stout, and other stimulants, and sitting up too soon.

Now, what is usually called milk fever, **Milk Abscess.** is an artificial condition of the system, induced by wrong management, and sometimes leading to the necessity of pretty active medical treatment; it involves high excitement and produces weakness, whereby recovery is retarded, and the formation of *milk abscess* frequently induced. Such abscess is often a disease of long and painful

continuance, ending sometimes even in the destruction of the further usefulness of the breast as a nursing organ.

Diet. Every mother should exercise her own good sense, and assist her doctor's endeavours to prevent the accession of fever, by carrying out all his directions. No lying-in woman can neglect the advice of her medical attendant but at the risk of her health, perhaps even of her life, and, therefore, she should see that her diet is suited to her condition, and that nothing which is medically forbidden enters into its composition.

As a general rule animal food and soups are not proper until after the secretion of milk has been fully established, and all risk of fever is at an end, that is, till after the termination of the fifth or sixth day. Alcoholic stimulants of all kinds are altogether more or less hurtful during the month, and indeed, through the whole period of suckling.

Some women have an idea that if they suckle they must "*live well*," and consequently they take plenty of solid animal food, and drink beer, stout, and wine, with the result that their milk is rendered gross and indigestible, fever is induced, and their health and that of their offspring suffers. The most wholesome diet for a mother during the first week is gruel, milk, cocoa, weak tea, with plenty of milk in it, soft boiled eggs, boiled custards, biscuits, toast, bread (not new) and butter. The last three weeks of the month, soup or broth, fish, game, chicken, or mutton, with well cooked vegetables; grapes or baked apples may be added.

At the expiration of the month a moderately full diet may be allowed. It should be as varied as possible, and as liberal as can be digested. Ripe fruit, tomatoes, and well boiled vegetables are now good. It is better for a nursing mother to avoid pork, veal, pastry, vinegar, and pickles. Salt should be taken with food rather more freely during suckling as it improves the quality of the breast milk.

Alcoholic Stimulants. No mother who suckles should take any kind of alcoholic stimulant. Ale, stout, wine and spirits deteriorate the milk, and this more or less injures the infant. Stimulants do not make milk as some people are fond of asserting, but they spoil it. The best beverage for women who suckle and desire to have good milk for their babes is milk. All milk, however, should be sterilized before being taken by means of an Aymard's Patent Milk Sterilizer, a simple apparatus which should be in every house, and which will be more fully described in another chapter. By the use of this Sterilizer milk can be made to agree with the most delicate stomach. Milk, therefore, should be essentially a nursing mother's beverage. Cocoa, toast and water, barley water, Johannis water, and weak tea (free from tannin)* may also be partaken of.

The treatment of the breast is a matter demanding great attention, since mothers **Sore Nipples.** are liable to *sore nipples*, *excessive flow of milk*, and *abscess of the breast*; the first and last of which are very painful complaints, and interfere considerably with the proper performance of suckling and the consequent nourishment of the infant.

There may be simple soreness of the nipple or the nipple may be cracked. Suckling with either condition is painful to the mother, and she is apt to shirk her duty and supply less nourishment than her infant requires. Sore or cracked nipples usually result from want of cleanliness or from keeping the nipple too moist, as when constant suckling is allowed, or when there is too abundant flow of milk. If mothers permit the nipple to remain in the mouth of the child all night, they indulge it in an injurious habit, and have no reason to wonder that sore nipples is the consequence.

Sore nipples may be prevented by proper attention to the nipple before confinement. The clothing about the breasts, during the latter months of pregnancy,

* The Digestive Tea supplied by the Universal Digestive Tea Co., 100, Market St., Manchester, is free from the tannin, and thus in moderation forms a wholesome beverage.

should be very loose, and it is a good plan to wear a wire tea-strainer over each nipple, so as to prevent friction of the clothes. Every day for three months before labor, the nipples should be well washed with hot water on retiring to bed, and smeared with cocoa butter or oil of sweet almonds in the morning.

If the nipples be small or drawn in, **Small Nipples.** attempts must be made to draw them out with the finger and thumb. Lotions containing alcohol or of an astringent nature, must not be used for the bathing of the nipples, as they only harden and dry the delicate skin, and render the nipples more prone to crack. The nipples should be kept as soft and pliable as possible.

In those cases where the nipple is excoriated or cracked, or where a crack has taken place at the junction of the nipple with the breast, protection from the action of the lips and tongue of the child is in the first place necessary; and in the second place, the application of a healing lotion.

When a crack exists a nipple-shield **Nipple Shields.** should be used. Nipple-shields are made of glass, wood, ivory, or silver. The shield being covered with an artificial teat, the infant sucks through it without its lips and tongue coming in contact with the nipple, and consequently without irritating the nipple. To cause the infant to draw this artificial nipple at once, the shield should be filled with warm milk and inverted over the nipple. The child thus draws the milk immediately and easily, and will often continue to suck until the breast milk flows. After the infant is satisfied the shield should be removed and the nipple should be thoroughly dried with lint, and the following lotion should be painted over it with a camel's-hair brush:—

Take of—Boracic acid, 20 grains. Mucilage of Acacia, 1 fluid ounce. Mix.

The white of a raw egg, beaten up with a small quantity of flour, to the consistency of thin paste, and

applied by means of a camel's-hair brush, is a very useful application to sore or cracked nipples. It sometimes acts better even than the above mentioned lotion.

Dr. Wansbrough's nipple-shields made of thin lead I have found very successful in preventing sore nipples. These shields will not cure sore or cracked nipples, but will prevent the nipples from becoming sore. They must be used before a sore or crack takes place. They should be constantly worn in the interval between the acts of suckling, should be removed for the latter object, and the nipples carefully washed before the infant is put to the breast. Mothers who have suffered in previous nursings, should wear these shields from the day after delivery.

The dress must be kept from irritating the sore nipples, this is best effected by the wearing of a wire tea-strainer over the nipple when not suckling. A fresh ivy-leaf laid over the nipple after every suckling is also very effective. The glaze on the leaf prevents it from sticking, and it preserves the nipple from the clothes. If these apparent trifles are not attended to, the newly formed skin will frequently be torn off from the nipple by the sticking of the clothes.

Abscess of the Breast. Abscess of the breast must not be neglected. It is an affection which varies in intensity, and which may attack different tissues of the breast.

Usually the first symptoms are those of inflammation. The breast becomes hard, swollen, and appears to be made up of large hard lumps or knots, which are very tender to the touch. Wherever these symptoms appear the doctor's advice should be obtained, for if unattended to, abscess may form, the breast be destroyed, and the mother's health be injured for months.

The baby should be suckled from the sound breast, and the milk should be drawn with a breast-pump from the inflamed breast. Sometimes these inflammatory symptoms will pass off if a saline aperient be taken so as to act on the bowels freely. Half an ounce of best Epsom Salts, in half a tumbler-glass of hot water, is

the most suitable aperient. This is best taken fasting in the morning. The diet must be cooling.

If abscess forms, and matter begins to discharge, the diet must be nourishing, and the bowels kept open by some saline, preferably Epsom Salts. If there should be much debility whilst the abscess is discharging, a tea-spoonful of Brian's Heart Tonic, in a wineglassful of cold water, may be taken three times a day, directly after meals. It is a most valuable tonic. In no case, however, should medical assistance be dispensed with, as the treatment of milk abscess varies according to its situation in the breast, and the earlier treatment is commenced, and more hope there is of averting serious mischief.

If milk fever comes on, with shivering, **Milk** headache, and dirty tongue, it may generally **Fever.** be made to pass off in three or four days by taking a dose or two of Epsom Salts in hot water. I think rather highly of Lamplough's Pyretic Saline as a cooling medicine, in many simple feverish conditions. A teaspoonful should be taken in half a tumbler of cold water two or three times daily.

Excessive Excessive flow of milk usually arises **Flow of Milk.** from a condition of general ill-health of the mother. The milk in this case is usually very watery, and does not nourish the baby sufficiently. It may even upset its stomach and bowels. The bowels should be kept freely open, the diet should be nutritious, and a tea-spoonful of Brian's Heart Tonic should be taken in a little water, with food, three or four times a day. The breast should be bathed two or three times daily with a strong solution of salt and water.

If the case proves so bad as to be irremediable by these means, and the health of the mother is seriously affected by the constant dribbling of the milk, the baby must be weaned, and the milk dispersed by the taking of saline aperients, and the application of belladonna plasters to the breasts.

Scanty Flow of Milk. If there is but a scanty flow of milk, the application of hot poultices, made of castor-oil leaves, to the breast may cause the milk to come more freely. Usually, scanty milk is a sign of weakness in the mother. The best remedy is a good nourishing diet, with plenty of eggs and milk. Here again Brian's Heart Tonic will be beneficial.

I may here mention that in all cases of either scanty or excessive flow of milk, the mother would derive great benefit by taking daily mixed with her food some of the Pure Powdered Bone prepared by Parke, Davis & Co. A couple of teaspoonfuls might be taken in the day. This preparation is a true food, and supplies to the body lime and phosphoric acid. The regular taking of it will materially improve the nutritive qualities of the breast milk. It is quite tasteless.

Ventilation of Lying-in Room. The lying-in room should be well ventilated during the month, as it is very important that a suckling mother should have plenty of fresh air, otherwise her milk is apt to be poor in quality. The condition of the milk depends very largely upon the condition of the blood, therefore, it is necessary that pure air be admitted to the room in order to oxygenate* (or make pure) the blood. If fresh air is admitted and properly managed, it exerts great influence in moderating the fever to which lying-in women are particularly liable, and also in improving the general secretions. It likewise prepares the patient for the enjoyment of going abroad in suitable weather, without risk.

There should be no curtains to a lying-in woman's bed. She can be guarded against draughts by the use of a temporary screen.

Temperature of Lying-in Room. The room should be kept at a temperature of 68 to 70 degrees. An overheated room is apt to set up a feverish condition.

* The oxygen of the air when taken into the blood through the lungs, purifies and vitalizes that fluid.

Plenty of sunlight should be admitted into the lying-in room. Sunlight is the best restorer and tonic.

Secretions. The mother's secretions must be looked to daily, and be kept sweet and healthy by douching and washing. The milk soon becomes affected if noxious matters are absorbed into the blood, and this may easily take place if the mother is not kept perfectly clean.

Quiet and Rest. A nursing mother must lead a life as free as possible from all emotional excitement. Sudden fright, or joy, great anxiety, anger, passion, and other emotions, have a marked effect upon the quality of her milk. All violent passions of the mind always change the character of the milk, and the infant suffers more or less. Dr. Carpenter in his "Manual of Physiology," says (and I quote it here for the benefit of mothers): "The milk is peculiarly liable to be affected as to quality by the habitual state of the feelings, or even by their temporary excitement. Thus a fretful temper not only lessens the quantity of milk, but makes it thin and serous, and gives it an irritating quality, and the same effects will be produced for a time by a fit of anger. Under the influence of grief or anxiety, the secretion is either checked altogether, or it is diminished in amount and deteriorated in quality. The secretion is usually checked altogether by terror; and under the influence of violent passion, it may be changed in its characters, as to produce the most injurious and even fatal consequences to the infant. So many instances are now on record, in which children that have been suckled within a few minutes after the mothers have been in a state of violent anger or terror, have died suddenly in convulsive attacks, that the occurrence can hardly be set down as a mere coincidence; and certain as we are of the deleterious effects of less severe emotions upon the properties of the milk, it does not seem unlikely that in these cases the bland, nutritious fluid should be converted into a poison of rapid and deadly operation."

Sexual Emotions. During the period of suckling the sexual relations should be kept in considerable check. Sexual emotion of frequent occurrence deteriorates the milk. Cohabitation should not be resumed till two months after confinement.

CHAPTER III.

How to Wash a Young Child.

To Wash a Young Child. The washing of a baby immediately after birth has already been described. I shall, now, give more detailed information as to how to wash a baby during the first three years of life.

The nurse must wash the baby during the time of the mother's lying-in; afterwards it is better that the mother should herself attend to her child in all matters of toilet. Even if the duty of washing the child is performed by another person the mother should superintend the process.

Certain articles are wanted for the washing of a young child. These are:—
Articles required. an oblong tin tub, painted white inside, and large enough to give plenty of room, a supply of warm water, a piece of soft flannel, a large sponge, soap, and soft towels. The nurse or mother should also wear a long apron made of soft flannel. A piece of oilcloth should be put on the floor for the tub to stand on, and to receive any water splashed about, and the bather should be provided with a low chair. This enables her to get more on a level with her work, and makes a deeper lap for the child to rest in.

A tin tub is preferable to a wooden one, as it is easier kept clean. After use it should always be well cleaned and dried.

The Water. The water for the bath must be pure and soft. It must also be clean. It should be filtered if muddy. Hard water should never be used for infant washing. An endeavour should always be made to procure rain water. It is softer than either well or cistern water. It is always wise to boil the bath water and allow it to cool down to the proper temperature. Sufficient water should be used to cover the child up to the neck when it is placed in the tub in a sitting position.

Temperature of Water. The temperature of the water is of great importance. A few people advocate the use of cold water from the commencement, saying that it strengthens the child. Instead of doing this, however, it depresses, and often is the cause of inflammation of the eyes, cold in the head, inflammation of the lungs, and stomach and bowel affections.

On the other hand too hot water weakens the child's system and renders it liable to be attacked by disease. The water should be *warm*, about ninety-five degrees Fahrenheit in winter, and eighty-five to ninety-two degrees in summer. The heat of water cannot be accurately estimated by the hand. A nursery thermometer must always be used.

The best form of nursery thermometer is Rauschke's.* This handy little instrument can be used for taking the temperature of the bath, the food, the apartment, and fairly accurately of the body. It has the advantage, too, of being so cheap that most mothers can obtain it. See Fig. 1. The instrument should be placed in the water, and allowed to remain in it for a few minutes. When the mercury rises up to ninety-five degrees (Warm Bath) it may be known that the water is quite hot enough. If the water be too hot it must

* Made by R. Rauschke, Surgical Instrument Maker, 46, Woodhouse Lane, Leeds. Price One Shilling.



be cooled by adding cold water, or if the temperature is too low, it may be raised to the proper degree of heat by pouring in hot water.

Tepid Bath for summer washing is marked on the scale at eighty-eight degrees. I must insist very strongly, therefore, on the use of the thermometer in bathing a young child, as serious consequences may result from merely guessing at the heat of the water. Always use the nursery thermometer, not the hand.

Now, as to the soap which it is best to use. All common soaps are very irritating to the skin and should be avoided. They are apt to lead to eczema and other skin disorders. Castile, glycerine, and lanoline soaps are the least irritating to the skin, and on the whole are best for the purpose. Among special infant soaps I consider *Allenbury's Baby Soap*, manufactured by Allen & Hanburys the best for a child's delicate skin. Whatever soap is used, however, care must be taken that it does not get into the eyes, as it may set up either inflammation or smarting.

Oatmeal. A handful of fine oatmeal previously mixed in a basin with water to the consistency of thin gruel, may be added with advantage to each bath, and well stirred up in the water. It makes the water soothing, and tends to keep the child's delicate skin soft and supple.

Sponge and Flannel. A piece of soft flannel should be used for the first part of the washing. It takes the soap well and is useful to loosen the dirt and perspiration. It can also be rubbed thoroughly over the skin, without harming it. A large soft sponge is best suited to the finishing of a bath. It holds a quantity of water, and thus enables one to stream the water over the child's body, producing all the stimulating effect of a miniature shower bath, at the same time that it washes away from the surface all the dirt and superfluous soap. A sponge too gets better into all the crevices of the skin, and it is softer and more agreeable to finish the

washing with than the flannel. The flannel and sponge must be kept exclusively for the child, and must not be used twice in succession without being thoroughly cleaned and dried.

Towels. Two large soft towels are required for each bath. These must be perfectly clean, dry, and warm.

Bath Apron. The mother or nurse must always wear a bath apron while washing the infant. This should be made of thick, soft, white flannel, and be in two pieces. One piece should be long enough to reach from the mother's waist to her feet, and be sufficiently broad to cover the front of her dress; the other piece should be quite as broad but four or five inches shorter. Both pieces are sewed to a waist-belt, forming two aprons. When the child is being lifted from the tub the shorter or upper apron is thrown over the shoulder, and is then replaced when the child reaches the lap, so as to form for it a dry and warm covering. When the bath is completed, the apron must be taken off and thoroughly dried. It is better to have several such aprons, as they want to be frequently washed, so as to keep them perfectly sweet and clean.

Chair. The best form of low chair to use in bathing, may be made out of an ordinary wooden kitchen chair by sawing off three or four inches from its legs. This kind of chair has a broad seat and gives comfortable support.

Time for the Bath and Bathing. During the first three years of life the child ought to be bathed once every day. The bath should be given at a regular time, and midway between two meals—remember never directly after a meal. Perhaps the best time is about ten in the morning. The tub should be placed near the fire in winter, and away from all draughts in summer. All the articles required must be within reach of the hand.

The washing of the child must be thorough, therefore it must be put bodily into the water up to its neck. Before lowering the child into the bath wet its head first. Then let its head and shoulders rest on the left forearm, and its buttocks on the left hand, and lower it gently into the water, and with a flannel well soaped and held in the right hand cleanse its whole body, avoiding the eyes. Pay particular attention to the armpits, between the thighs, the groins, and the hams. This done, take the sponge well filled with water in the right hand, and squeeze the water from it over the body, particularly over the back and loins. During this portion of the operation the child must be lifted clear of the bath water by the bather's left arm and hand.

The sponging strengthens the child and removes the superfluous soap from its surface. The child must now be transferred from the tub to the lap and enveloped in one of the warm, dry, soft towels, or in the loose folds of the bathing apron. It must have its skin thoroughly dried. The best way to do this is to have a towel folded over the palm of the hand and dry by gentle patting movements. The moisture is thus absorbed by the towel. Rough scrubbing and rubbing of the tender skin should be scrupulously avoided. All the folds of the skin where moisture is liable to be retained must be especially dried. I have seen troublesome excoriations between the buttocks and behind the ears, which have arisen simply from neglect in drying those parts.

If during the bath, water gets into **Clearing** the ears it must be removed, as if it is **Ears and Nose.** allowed to remain there it will probably lead to abscess of the ear and ear-ache, and may even be the exciting cause of deafness. A blunt point should be formed out of a soft handkerchief and inserted a short distance into the ear so as to absorb the moisture. The nose may be cleaned in the same manner. A little vaseline in this case smeared on the point of the handkerchief assists the cleansing.

As soon as the infant is dried, all those parts which are likely to chafe must be well powdered. Rice powder or preferably Matthews's Fuller's Earth are the most useful powders. These may be applied either with a puff or by tying up a little in a piece of muslin and then gently dabbing the parts with it.

Whilst speaking of powdering, I should like to say how important it is to keep a baby absolutely free from a redness of the skin. It is manifestly absurd to expect a baby to thrive if it is in a constant state of discomfort. I knew a case where a qualified nurse allowed a baby to get into a very inflamed condition, with the result that it was always crying, and it finished up by having convulsions. Now it does not appear unreasonable to attribute indirectly these convulsions to the neglect of keeping the skin in a healthy state. When Fuller's Earth was very freely applied, the skin soon got back into its natural condition, and after a while the nervous irritation ceased. Therefore use Fuller's Earth Powder freely after washing and drying the child.

After the child has been dried and powdered, its chest, back, bowels, and limbs should be rubbed with the palm until the skin becomes slightly red. Whilst drying and rubbing, the child should be allowed to kick and stretch on the flannel apron, as this exercises the limbs.

After the baby's surface has been rubbed as just described, its body must be enveloped in a light blanket and it must either be returned to its cot to sleep, or kept in the lap for a quarter of an hour, until thoroughly warm and rested, and then dressed.

The duration of the bath must never exceed five minutes. The bath must never be given immediately after a meal—between two meals is the best. If the child is either cold or overheated, the bath must be deferred. The head and face of the child must never be plunged beneath the surface of the water. The

child must be lowered gently into the water, not plunged suddenly or rudely into it. If the child seems frightened at the sight of the water, the tub may be covered over with a blanket, and the child be placed upon it, and thus slowly lowered into the water.

In addition to the morning bath

Too much Soap. a baby may be rapidly sponged every evening with warm water in front of the fire. Soap need not be used for the evening sponging. I may say that too frequent use of soap in infant washing is injurious to the delicate skin. There are certain glands in the skin which pour out a protecting oily secretion, and if this is all removed by the use of too much soap, the tender skin becomes dry and hard, and is subject to cracking and painful excoriations. The oily secretion is of the utmost value to the health of the skin at all ages, and especially so in infancy and childhood. The baby must be dried and powdered after the evening sponging the same as after the morning bath. The sponging should precede putting it to the breast or giving any food.

Sometimes in very hot weather

Extra Sponging the baby is benefited by an additional sponging in the middle of the day with water not lower than ninety degrees Fahrenheit. Water at this temperature cools better than colder water does.

The baby will require to be

Local Washing. washed locally with a sponge and warm water several times a day, after each action of its bowels and bladder. Attention to this point is very important as excoriations may take place if there is not the utmost cleanliness. A separate sponge and towel should be kept for the purpose, and these must always be kept scrupulously clean.

When the baby gets to be about

Salt. two months old, the addition of two handfuls of table-salt to the water

it is sponged with in the evening will brace and strengthen it.

Excoriations. If the parts about the groin and seat be excoriated or sore, they should be gently sponged with tepid water (88 degrees) and dabbed dry with a soft napkin, and then anointed with a paste, made by adding a little water to Matthew's Fuller's Earth. Two or three applications of this paste, applied thickly to the sore parts, will soon restore the skin to a healthy condition.

Washing Napkins. Excoriations of the seat often arise from the napkins having been washed with soda. The mother had better have all soiled napkins washed at home, as washerwomen nearly all use soda. Every time the napkin is dirtied the baby should have a fresh one. It is impossible to keep a baby sweet and clean unless there is strict cleanliness.

Hardening. Never attempt to harden a baby or young child by bathing or washing it in cold water. Babyhood is not the period to attempt a hardening process, and many a young child has been killed by commencing with cold water bathing too early. Up to three years of age (or even later with delicate children) the temperature of the bath and sponge water should never be less than ninety-five degrees in winter and eighty-five to ninety-two degrees in summer.

CHAPTER IV.

Infants' Clothing.

Infants and young children are very susceptible to cold, and consequently require to be warmly clothed.

Protection from Cold. The essentials of infants' clothing are lightness, warmth, looseness, and absence of pins and buttons. The clothing should also permit freedom of motion for the limbs. Every part of the body, except the head, ought to be equally protected from cold.

Too Heavy Clothes. A baby's clothing should be *light* but not too airy. There is a foolish fashion of keeping a baby for six or eight months in clothes far too long for it. The infant is weighted down with too heavy clothes. It is unnecessary and even cruel to clothe a young babe in robes, which, when it is carried about reach to the ground. Such length of clothes serves no useful purpose, and considerably interferes with the freedom of motion of the lower limbs. The clothes, therefore, should in no case extend beyond six inches from the baby's feet.

Underclothing for Babies. All clothing should be *warm* and so arranged as to give equal warmth to every part. The chest, back, abdomen and feet require especial protection. All the underclothing, therefore, should be pure wool—fine white flannel or merino. The thickness of the wool clothing might vary with the season. The outer clothing may be left to the taste of the mother provided that all wool is worn underneath. Even then, however, I should prefer the outer robe to be made of fine white merino, instead of muslin or cambric.

The clothing should be *loose*. The bones and muscles of young children are very soft, and are hindered in their natural development by undue pressure. There should, therefore, be nothing tight about their limbs. Pressure anywhere, impedes the circulation of the blood in the blood vessels. Clothing should be loose about the chest and waist so as not to interfere with the action of the lungs and heart. It should be loose about the stomach and abdomen so that digestion and the healthy action of the bowels may not be hindered in the least. In fact there should be pressure nowhere but perfect freedom from all restraint.

Tapes should be used to fasten the clothes

Pins. instead of pins or buttons. A baby may be completely dressed and only one pin used, and that a safety one to fasten its napkin. Ordinary pins must under no circumstances be employed anywhere about baby's clothing, as I have known infants thrown into severe convulsions by the scratch of a pin. Even the napkins can be made with loops and tapes so as to avoid the use of pins altogether. In any case if a pin is anywhere required it should be always a patent safety pin. Tapes should be so placed that the clothes can be easily changed.

As previously mentioned a baby should not

Caps. wear a cap either day or night. The head ought to be kept cool. Caps only keep the head too hot and induce perspiration, whereby the baby is made more liable to catch cold. It will sleep more comfortably at night with its head uncovered.

The outfit described below is a simple and suitable method of dress, for the first six or eight months of a baby's life.

Binder or Belly-band. Infants under a year old must always wear a belly-band. This I prefer to be of soft knitted wool rather than of flannel. The band should be shaped to fit its form, and should extend from the hip bones to the lower ribs. In order to fit easier it should be narrower in the centre than at either extremity. A band of this

sort can be readily applied, and it does not require either strings or pins to keep it in position. Any woman who can knit may easily make one of these bands "Baby-hood" Vol. III. p 53, gives the following *formula for Crocheted Baby-band* :—Single zephyr in ridge stitch, that is, half stitch, in which, going back and forth, only the back half of the stitches in the lower row are picked up. Begin on a chain of fifty and crochet forty-eight ridges, hence ninety-six rows. Join by a row of tight stitches or by sewing. Finish off at bottom by a row of plain stitches, and at top by a picot edging (five chains and a tight stitch back into the first).

A belly-band whether of flannel or knitted must not be tightly applied. It is a mistake to suppose that a tight belly-band helps to prevent navel-rupture. It has quite the opposite effect. If applied too tightly it also interferes with the proper movement of the bowels. The belly-band, therefore, ought to be loose enough to admit easily two or three fingers underneath it.

The chief use of the belly-band is to keep the child's bowels warm, to aid digestion, and to prevent body pain.

A mother should have several bands on hand, as for cleanliness' sake, it is advisable to have a fresh one frequently. As the child grows, larger bands must be knitted so as to avoid tightness.

The belly-band must not be left off too soon (not under a year), and never in the winter time. If a child has whooping-cough an all-wool belly-band must always be worn.

Napkins. I. The napkin I have described in Chapter *Napkins*. There should be a large number of napkins on hand. I have known some mothers after a baby has wetted a napkin, dry it and use it again. This must never be done as soreness of the skin may be induced. A napkin however slightly soiled must be changed and a fresh one put on. All napkins must be thoroughly well washed (not in soda), and hung in the fresh air for twelve hours before being used again. See that the napkin is warm and dry before applying it.

Cleanliness of Habit. A child should be taught at a very early age habits of cleanliness. Complaint is often made of a child being dirty, but the fault is almost always with the nurse. At least a dozen times a day a little pan (warmed) should be placed under the infant as it lies on the lap, by which means it may be taught at three or four months of age to dispense with napkins. A baby so treated will generally indicate by intelligible signs when there is a call of nature. These signs must never be neglected if the child is to be taught cleanliness.

Napkin covers of rubber do harm, and must on no account be employed. Such a cover placed over a napkin which subsequently becomes wet with urine, converts the napkin into a poultice which macerates, irritates, and finally excoriates the tender skin.

List of Clothing for the Baby.

all-wool material. to open in front.

The clothing proper consists of a shirt and two dresses. The shirt should be made of the softest white flannel or some other equally soft material. It is best made without sleeves and to open in front. Next is a dress made of soft wool material with high neck and long sleeves, cut *à la princesse*. It should reach not more than six inches below the feet. It, too, should open in front. Over all is a dress made according to the mother's fancy of muslin, cambric, or better, fine white merino. All the clothes as previously advised ought to fasten with tapes.

The stockings should be of soft knitted wool, and should reach quite to the knees. The stocking foot must have the toe rounded not pointed, and must fit easily so as not to press the toes together.

The baby should have clean under-clothes daily. It must have a sufficient supply so as to allow of this. All clothes must be very well aired, as the putting of damp clothes on an infant is most dangerous.

The best form of night dress for a baby or young child is a long gown with a drawing string at the bottom to prevent catching cold by exposure of the legs and feet

should the bed clothes be kicked off. In warm weather the drawing string may be dispensed with. The night dress must be of soft white flannel, the thickness of which must be regulated by the season. A flannel shirt similar to the one in use during the day must be worn, it should, however, be of a thinner material. Of course the binder and napkin are worn at nights as well as during the day.

The time for "shortening" an infant

Shortening. depends upon the season. If it is summer time the "shortening" may take place at three months of age, in winter at four or five according to the robustness of the child. It is never wise in this country to "shorten" a baby in the early spring, as the weather then is often very treacherous, one should wait till the end of May.

The underclothing of the "shortened" infant is the same as before. The skirts now, however, end at the top of the ankles. This leaves the legs exposed. They must be protected either by stockings, coming well above the knees, or by drawers. If drawers are worn they should be of all-wool material and should be made in two pieces, one for each leg. They should fit loosely but closely, and there should be a button hole at the top to button to the waist of the skirt. If napkins are still worn this form of drawers does not interfere, and at the same time is not soon soiled. If stockings are preferred they must be held in position by "suspenders," *never* by garters. Garters interfere with the circulation, produce varicose veins, and cause cold feet. The stockings should be of pure knitted wool, white by preference, as the dye of many coloured stockings if not well fixed is apt to cause irritation of the skin. All knots and ends which may hurt the feet must be carefully removed. There ought to be plenty of room in the stocking foot so as to allow the toes to spread out naturally.

The outer dress depends upon the mother's fancy. She should see, however, that the arms are well protected. For very young children I certainly prefer the outer dress to be of all-wool material.

All clothing should vary in thickness and weight according to the season, and there must always be a plentiful supply of under-clothes.

When a baby begins to wear shoes the **Shoes.** mother must attend to a few points in their construction. The shoe must be made according to the shape of the foot. There must be "rights and lefts." It is a mistake to suppose that a baby's foot can be thrust indifferently into either shoe. On no account must the shoes be tight. There must be plenty of room for the toes to have free play, without pressing upon or overlapping one another, therefore, the toe part of the shoe must be broad. There must be neither pinching nor pressure. The shoes must be of soft leather, and be thrown aside as soon as they become too small. The thickness of the soles must depend upon the age of the child. Before the infant can walk they may be thin and flexible without heels. When the infant can toddle about, the soles may be heavier and slightly thicker at the heels so as to raise that part of the foot. Regular heels to children's shoes are unnecessary before six years of age. The shoes must be long enough so as not to cramp the toes, and yet not too long so as to cause the feet to slip backwards and forwards. In fact the shoe must be constructed so as to fit easily about the heels and instep, and comfortably at the toes. The infant's shoe must fasten with a narrow strap over the instep, having button and button-hole. The strap should not press too firmly on the instep.

RUPTURES.

RUPTURES.

RUPTURES.

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CHAPTER V.

Air and Exercise for the Infant.

Air and Exercise. All babies require almost from birth a certain amount of exercise in order to develop their muscles and assist their digestive functions. This exercise, however, should be regulated according to age.

It is an old saying, that, the more an infant sleeps the faster it grows. This is perfectly true. Still a baby however young must have exercise, and as early as a week old, it ought not to be constantly confined to its crib covered with clothes, but be carried about the room several times a day, for a quarter of an hour at a time laid upon its back upon a pillow, that it may have an opportunity of exercising its little limbs.

If an infant, say at four weeks old, is laid upon a bed or soft mattress, loosely but warmly clad and with its napkin unfastened, and thus freed from all unnecessary restraint, it will soon be found to exert its feeble limbs in every direction. When placed in this way upon its back, it has a full opportunity of exercising all the larger muscles of the body, and rapidly acquires strength when healthy. It ought not to be allowed to exercise itself much in an erect position for the first four or five months, as the spinal column at that period is only weak and soft, and is but ill calculated to sustain the weight of the whole body, and consequently might suffer serious injury. The employment of the muscles must be the result of the voluntary act of the child, and it will most certainly and successfully exercise itself when placed in an easy position on its back, with its head a very little elevated, and when exercised gently in the arms of its mother or nurse.

It is of consequence not to place the baby in an erect position for any length of time, until the spine is sufficiently strong to support the weight, and the muscles have acquired strength to sustain the body in that position without much fatigue; and if for any reason the infant must be placed in an erect position, the head should always be steadily supported by the hand of the nurse being placed under it. This is doubly necessary in the case of feeble or very heavy children.

Method of Carrying an Infant. In carrying an infant about, for the first month it is advisable

to place it upon its back on a

pillow. In the second month

the pillow may be discarded and the infant carried in a reclining position in the arms, with the head and body thoroughly supported.

When the infant is carried about in the arms of the nurse, it should be gently exercised by a movement up and down, which should be repeated several times a day, for a couple of minutes at a time. This exercise causes a proper circulation of the blood, promotes digestion, and induces sleep. A baby must never be moved up and down rapidly and on no account must be tossed into the air. Motions rapidly performed, and tossing especially, must never be allowed, for anything which frightens a baby is apt to bring on convulsions. Therefore, should the child manifest any dislike for any movement employed, by sudden starts, by sighs and crying, it should be immediately discontinued, and never afterwards repeated. A baby must always be kept quiet directly after taking the breast, if it is moved up and down immediately afterwards, the digestion is disordered, and it is likely to be sick.

After the infant has gained sufficient

Sitting up. strength to sit up without much support, it may be advantageously indulged in it, now and then, for a few minutes at a time. The spine will rarely acquire such firmness as to render this proper before the fourth or fifth month; after this time it will usually gain such strength that it may be allowed a

sitting posture for a short time, provided the head and shoulders be supported by the nurse's hand, and in this way it may be carried about on the right or left arm. It is important not to use one arm constantly. The arm should be changed, for if the baby is carried in one position too long it contracts a habit of leaning to one side, or it may become crooked. The child must never be so placed upon the arm, as either to oblige it to support itself or fall backward. The baby must never be allowed to put its arm around its mother's neck while placed on the carrying arm, as it will do injury to its side and back by forcing out the shoulder blade. The nurse or mother should take care that her arm does not too firmly grasp the child, lest she thereby should distort the thigh bones and legs or the bony structure (pelvis) at the bottom of the body, and on this account the infant should never be trusted to those who have no skill in nursing, as they always embrace the child too firmly for fear of letting it fall.

Excitement. A very young baby ought not to be excited whilst taking its exercise. When it is stretching its limbs and kicking about on the bed it should be allowed to quietly enjoy itself, and should not be talked to or excited in any other way. All excitement during the first few months of a baby's life is hurtful to the brain.

Out-door Exercise. Out-door exercise is as necessary for the infant as for the adult. A baby cannot grow healthy if always confined to the room. Of course the age at which an infant commences to take out-door exercise will depend very much upon the season and upon the weather. If a baby is born in summer and the weather be fine it should be carried out into the air daily within a fortnight of birth. If born in the winter it should not be taken out under five or six weeks of age, and then only if the weather be mild and in the middle of the day. At the end of three months it must be taken out every fine day. When the weather is cool the duration of the outing should be an hour in the morning and half an hour in the afternoon.

while the sun is shining. In warm summer weather the greater part of a baby's waking hours may be passed in the open air. When the wind is in the East or North-east or when the thermometer stands below twenty-five degrees Fahrenheit very young children are better off kept in the house. Too heroic attempts at hardening may lead to bronchitis or inflammation of the lungs.

Cold Weather and Temperature. Sudden attempts to harden children in cold weather are dangerous. Those of tender age should never be suddenly exposed to great changes of temperature, nor should their eyes be exposed to sudden or strong light. We may, indeed, under great changes of temperature, guard by proper clothing their external parts against the effects of cold, so effectually, as to receive no injury, but we cannot so easily protect the stomach and lungs. The cold air will force itself into them ; hence arise cough, irritation and inflammation, and the more frequent occurrence of these complaints in winter than in summer.

When a baby is taken out of doors in winter it must be well wrapped up. A knitted all-wool spencer, made to button behind, should be worn under its cloak. The cloak should be long, with or without capes or fur, according to the degree of cold. The hands must be protected by worsted gloves or mittens. A soft porous all-wool knitted bonnet, well protecting the ears, must be worn. All extra clothing for out-door exercise in cold weather should be put on *immediately* before the child leaves the house, and taken off *directly* he returns.

Warm Weather. In warm summer weather the infant does not want any extra clothing, than what it wears in the house, for its out-door exercise. The head, however, must be protected from the direct rays of the sun by a white cotton bonnet, or, when able to sit erect, by a light straw hat.

Veils. When in the open air *white veils* should be avoided. If the sun is very glaring or the light very strong, an infant's face should be

covered with a green or blue veil. With this exception, however, it is better not to cover a child's face at all.

Carrying an Infant. When an infant is taken out for exercise, during the first four months, it should be carried on the arm. This especially in cold weather, because when carried the baby is held close to the nurse's body and so is kept warm by the heat given off from her.

After the fourth month a carriage may be used. Now, there are a large number of different patterns of baby-carriages, but it is very important always that a really good one be got. Babies are very tender and fragile and cannot stand much jolting or shaking. A baby-carriage should run smoothly, its wheels should be kept well oiled, and should have good rubber tyres, pneumatic by preference, the springs should be easy and of the best quality, and the inside fittings of the carriage should be soft and comfortable. To give support to the infant's body on each side, there must be two long, narrow, soft pillows. The carriage must be furnished with adjustable hood so as to protect from rain, wind, and sun glare. An infant must never be strapped down in its carriage. In trundling the carriage all rude jolting must be avoided, and rough attempts at forcibly mounting curbstones or other obstructions.

Creeping and Teaching to Walk. When should the baby be put on its feet? There is a difference of opinion on this point. Some mothers have an idea that a baby should be taught to walk at a certain fixed age, and when that age arrives various plans are adopted for getting it on its feet. Mischief can only arise by leading on a child prematurely to the trial of walking by various contrivances, such as go-carts, leading-strings, etc. These all have a tendency to work mischief by flattening the chest, distorting the spine, and deforming the legs.

The best plan and the safest is to let the child teach itself to walk. It is best to follow nature whose progress is always gradual. At nine or ten months the baby will

begin to creep, and in two or three months later it will make efforts to stand. From eighteen to twenty months of age it will be able to walk by itself. Now, if we take notice of a healthy child, we see it always in motion, and as soon as it gains strength it endeavours to support itself by the hands and feet, and crawls about whenever it is permitted. From this exercise it soon acquires an increase of strength, and whenever it is upheld by its mother's arms, and disentangled from the weight of its clothes, at the time of dressing and undressing, it will naturally try to crawl up its mother's neck, and by the manner of moving its limbs, will show what advances it has made. Whenever it is strong enough, it will have attained sufficient knowledge to walk by itself, and will seldom attempt it till it is in some degree equal to the task. It is thus perfectly safe to let it follow its inclination, for a child never gets crooked legs from being suffered to walk as soon as it is itself disposed to make the attempt. Nature ought not to be forced. By leaving children very much to themselves, there is usually no difficulty in ascertaining the age at which a child may be put upon its feet, for that time varies according to the strength of the child. Let children *feel the way* for themselves, and they will never deceive us as to the proper time for learning to walk. Dr William Hunter considered that children "should be allowed to play and crawl about the carpet, and learn of themselves to get upon their feet. In this way they do not anticipate their strength; they walk with more caution and a better poise, and are less subject to get falls."

The health and growth of an infant are always promoted by allowing and encouraging it to move its limbs freely, and therefore it should be allowed every day to lie on a mattress or on the carpet. When sufficient strength is gained the child will then be able to turn itself over; the desire of motion increases after awhile, and it learns to creep; and by imperceptible degrees it advances towards the time when it may commence putting its feet to the ground.

In teaching a child to walk, the mother's hands should be placed below its armpits, and its efforts always assisted

and guided according to its health, strength and natural powers. The infant should *never* be lifted or dragged by one hand or arm, but its body ought always to be kept equally supported and balanced by the hand of the mother, placed as just directed, below its armpits.

The mother should never allow the

Neck Crawling. child to crawl as high as her neck, as she is rendered incapable of raising her arms high enough to properly support it. The child might easily slip out of her hands, or she herself be injured. Hear what Dr. T. J. Graham says on the subject: "Tender and delicate ladies may sometimes be seen with their arms on a stretch, suffering a heavy child, perhaps with its shoes on, to crawl over the breasts, distended with milk, and squeezing them so forcibly against the edge of the stays, that parents have sometimes cried out from the pain, and yet not been able at the moment to bring the infant down into the lap."

Care must be taken when the

Floor Crawling. baby is put on the floor for exercise that the room is sufficiently heated (about sixty degrees), and that there is no draught blowing from under the door. It must always be remembered that the air next to the floor is much lower in temperature than the air in the higher portions of the room. We all know that in winter our feet and legs often feel chilly from being exposed to the colder air near the floor, and what must it be for a child creeping about with its whole body immersed in this cold air for long periods. It frequently contracts a chill which brings on bronchitis or diarrhoea if nothing worse. Numerous children are laid up with severe colds contracted by playing on the floor in cold or windy weather, therefore it should be seen to that the room is as nearly as possible heated equally all over, and a sand-bag should be placed over the crevice between the bottom of the door and the floor, and a curtain be hung over the whole of the door.

See to it that neither pins, needles, nor tacks are lying about on the floor. Let the child have good shoes on to crawl about in.

When a child is able to walk the baby-carriage should be discontinued, and it should be taken out walking for exercise, and be encouraged to run and romp about. A young child should pass as much time in the open air as the weather and nursery requirements will permit.

CHAPTER VI.

The Infant's Sleep.

Time required for Sleep.

requires less sleep, so that at two or three years of age from eleven to thirteen hours will usually suffice. Of course some infants need more sleep than others but the above amount constitutes the average required.

The infant requires plenty of sleep. The first six or eight months it should sleep eighteen hours out of the twenty-four. As it gets older it

Want of Sleep, Restlessness and the Remedy.

Now, nature intends that all infants should sleep a great deal; and when a mother cannot discover the cause of the restlessness of her baby she should obtain some medical advice, and this especially when the restlessness is long continued. When a baby, however, is wakeful but yet not ill, it is most probable that the principal causes of the wakefulness are, either over-feeding, being laid down in a painful position, or not having had the limbs sufficiently exercised. Now, if an infant is moderately fed it is always inclined to sleep afterwards, it will often fall asleep while feeding, and invariably it is quieter and more composed after being properly fed; but

If a baby cannot sleep well and soundly, or if it is restless during sleep, it is quite certain that it is disordered in some way or is suffering from some discomfort.

if it becomes restless afterwards, it is a certain sign of having been over fed, or else fed with indigestible food. If the child does not rest well on one side, it should be turned over on the other, its legs and feet should be kept warm, and its head not be laid too high, and its back be supported by the bedding. An infant always should lie in blankets (not in sheets), the warmth afforded by them being conducive to sound sleep.

Again if a baby does not sleep sufficiently, the mother ought to look to the state of the bowels. These may be somewhat disordered. It is quite easy to tell when the motions are healthy—the colour should be bright yellow, and there should be freedom from slime and bad smell. I have known many cases of sleeplessness and restlessness in babies removed by the giving of a very mild aperient, such as a small dose of Allen & Hanburys' "Tasteless" Castor Oil, or their "Palatable Aperient" (composed of castor oil and glycerine). This latter preparation causes no nausea or after constipation. It is in the form of a jelly, and has a pleasant taste.

Composing medicine must never on any account be given to a child. Both mothers and nurses are apt to be much annoyed by sleeplessness in their infant charge, and they are always very desirous of removing it by the readiest means in their power, so in far too many cases they fly to laudanum, syrup of poppies, paragoric, or to some or other of the various quack preparations with which the market is inundated, and the result is deranged health in the poor little babies, and often death. The mischief done by giving some kinds of opiates without medical advice, is very great. In Manchester, Leeds, Liverpool, and other large manufacturing towns, many hundreds of children are annually killed by the giving of soothing medicines. I cannot speak too strongly on this subject. A mother who knowingly gives a soothing medicine to her infant is to all intents and purposes little better than a murderer. There are many cases on record where young infants have been killed by a single drop dose of laudanum. There ought to be a stringent law prohibiting the sale of all soothing medicines containing poisonous drugs for children.

Many babies cry and are restless simply from thirst. Never refuse cold water to a baby. It can be given either through a feeding bottle or in a teaspoon. Milk does not relieve thirst like water. A baby will drink water when it will refuse its mother's milk. A baby restless and sleepless on a hot night will often fall calmly asleep after a drink of cold water.

The baby's bed should always be made up neatly and smoothly. Sound sleep is often brought to a fretful child by turning the pillow and smoothing out the bed clothing.

Regular Hours for Sleep. A baby should be got into habits of regularity as regards its sleeping

hours, as soon as possible. Up to the end of the eighth month the baby should sleep from about ten or eleven p.m. to five a.m., and then during the day as many hours as possible. It is best to put a baby to bed at about six o'clock at night, and then give it the last meal about ten or eleven. It should then be left to sleep undisturbed until about five in the morning, when it should have another meal and be put to sleep again.

An infant from eight months of age to two and a half years should always have a sleep in the middle of the day, say from about twelve o'clock till two. It should be undressed and put into its crib. The night's rest must begin at seven o'clock. Up to perhaps a year old it may require a meal about ten or eleven p.m., but after that age it will usually sleep undisturbed till six or eight in the morning. When it is thoroughly awake it should have a small meal, then lie or sleep another hour, and be taken up and washed, dressed, and have its regular breakfast.

Never Wake a Child. A child should never be roughly woken from a sound sleep. It should be allowed to wake of its own accord, for when it has had enough sleep it will awake naturally without rousing. It does harm to arouse a young child suddenly from sleep by exciting the brain and quickening the circulation, therefore mothers and

nurses should see to it that children have plenty of quiet and undisturbed sleep, and are not suddenly awoke by any loud noise or rough voices.

Temperature and Sleep The lying-in room must not be kept too warm. Sixty degrees is about a comfortable temperature for both mother and infant. I have been in many lying-in rooms which were almost like an oven, and where one was glad to get out into the fresh air. Such heated and ill-ventilated chambers are most unhealthy, and are apt to set up disease in mother and infant. A child cannot enjoy healthy sleep in an over-heated room. Still one must not go to the other extreme and put a young babe to sleep in a chilly room. In winter time there must always be a fire in the bed-chamber, and the temperature should be kept day and night uniformly at sixty degrees. The nursery thermometer hung to the wall, some distance from the fire, will guide as to the temperature. The room must not only be comfortably warmed but it must be well ventilated (without direct draughts). The door ought to be left occasionally ajar so as to cause a current of air between it and the chimney. I shall have more to say in another chapter about efficient ventilation.

Artificial Light. A baby must never be allowed to stare at the fire, the gas, or a lighted candle. The glare injures its delicate eyes. No more artificial light should be allowed in the room than is absolutely necessary, and all lights should be shaded. A child is far healthier sleeping in the dark.

It may be well to mention that in noticing or speaking to a baby one should stand directly in front of it, never at one side or behind it, as this latter procedure is apt to cause it to squint.

The Baby must sleep alone. A baby from the first should lie alone in a crib or bassinette at the side of its mother's bed. It breathes purer air when lying alone. Many a child when sleeping with its mother or nurse has been suffocated by "overlaying." The exhalation

tions and breath of an older person are more or less injurious to the health and vigour of a growing infant. A baby can always be kept quite warm in its own crib, and if the weather should be very cold or the child be very feeble, and extra heat be required, an india-rubber hot water bottle can be put into the crib.

Rocking to Sleep. An infant must never be rocked to sleep either in a rocking cradle or in the mother's arms or lap on a rocking-chair. Sleep induced by rocking is generally feverish and disturbed. Besides if a baby is once got into the way of being put to sleep by rocking there will be an end to all peace and comfort, and it will not go to sleep without it.

Curtains, &c. The head of the bassinette or crib ought to be quite uncovered. A baby needs all the fresh air it can get during its sleep. A handkerchief should never be thrown over a sleeping child's face, nor should a child be put into a bed with the curtains drawn. If the flies in summer time annoy the sleeping child a piece of net veil thrown over its face will protect it from them, and yet at the same time will not interfere with perfect breathing of fresh air.

Night Clothing. A child's night clothing must be perfectly loose in every part. There must be no tight bands or strings. During sleep it must be fully free from all cramping.

Let it be understood that the more a baby sleeps and the stronger and healthier it is likely to grow, therefore all its surroundings should be such as to encourage sound sleep. During sleep all the functions of the body are performed in a regular and natural manner, and the nervous system is undisturbed and unexcited. Hence with plenty of sound sleep the babe thrives well and grows.

Not to Sleep in Arms.

A baby ought not to sleep on its mother's or nurse's lap. It sleeps better, cooler, and more comfortably in its crib. Never let a baby lie on the

lap with its head to the fire. Young children are peculiarly disposed to affections of the brain, and this practice favours congestion of blood, and inflammation in that organ.

The mother must never go to sleep

Suckling and Sleep. whilst her babe is sucking. After a while the child ceases sucking, loses the nipple and buries its head in the bed-clothes.

The mother wakes and finds her baby suffocated. The baby as soon as it has finished sucking must be put back into its crib, and then the mother can go to sleep, but not before.

Nervous System, Plants, Flowers, &c. The nervous system of infants is extremely delicate and sensitive, and therefore plants, flowers, and strong smelling

perfumes ought to be wholly banished from their sleeping apartments. Young children have frequently been made ill by them; and Kopp, a German physician, mentions a case in which "a child, of fourteen days old, was killed by the strong scent of sabine oil diffused through the room, the father had rubbed his thigh very freely with it, for rheumatism, in the close vicinity of the child's cradle. No other cause of death could be discovered, and, till then, the infant was perfectly healthy."

The Baby's Bed. A feather-bed for a baby is objectionable. The body sinks deeply into it and is more or less completely enveloped by it, and thus the child gets overheated and the system is relaxed and weakened, and susceptible to the influence of cold. Of course if the babe is very feeble and requires plenty of artificial aid during sleep to keep up its body-heat, a feather mattress may be used.

Bed Clothing. All bed clothing must be warm enough to maintain a healthy temperature, but must not be too heavy as to oppress the child. The mattress should be of soft horse-hair, and the pillow of the same material, except for an infant under four months of age. The pillow too should be small and thin.

As soon as a baby is taken up from its crib the clothing should be shaken out and exposed to the air, before it is put back.

If the child wets the bed clothing, whatever may be the hour of the night, it must not be allowed to lie in clothes soaked with urine, but the clothing should be changed. To avoid this trouble when the child has its last feeding for the night it should be taken up and encouraged to pass urine.

CHAPTER VII.

Infant Diet.

The proper management of the infant as regards diet, during the first two or three years of its life, is a subject of very great importance. If a baby is not rationally fed there is grave danger of laying the foundation of constitutional weakness throughout the subsequent period of life. A great deal of the suffering and mortality of early life may be plainly traced to errors in dietary.

A mother ought always to suckle her **Suckling.** own baby. This is a rule which admits of very few exceptions. Nature herself clearly points out the necessity of every healthy woman suckling her own offspring. The health of both mother and child are in most cases improved by suckling. Many delicate women seem to gain health and vigour by nursing. A woman is benefited both in mind and body, and has usually a milder and more even temper if she suckles her child.

It is not often that a woman who is suckling suffers from any malignant disease of the breast. Sir Astley Cooper says: "that breasts which have been unemployed in suckling, in women who have been married but are childless, and in those who have remained single, are

more prone to malignant disease than those of women who have nursed large families."*

Whilst every *healthy* mother should nurse her baby as a bounden duty, yet on the other hand there are mothers who would be doing wrong both to themselves and their babes by suckling. These are the *unhealthy* mothers. I will classify such—(1) Women who are consumptive. Now a consumptive mother should never nurse. There is an old tale that if a consumptive woman conceives and suckles she will lengthen her life. This legend is totally untrue. In fact I will go so far as to say that a consumptive woman if married should on no account conceive, and that if so imprudent as to conceive she must not nurse her child. A babe born of a consumptive mother if it is to have a chance of escaping the fell disease which may destroy her, should be suckled either by a healthy wet-nurse or fed artificially. (2) The same rule holds good where there is a family history of cancer. (3) Where there is insanity, gout, rheumatism, or rickets, or any kind of skin disease, the child must not be suckled.

It is an unerring rule, that the mother ought not to let the child be fed with any food whatever while she herself can supply it with sufficient nourishment. It is one clearly dictated by the ample provision usually made by Nature in the breasts of the mother, of an exceedingly nourishing vital fluid, and yet it is a principle as frequently and improperly infringed as any other that can be named, if not more so.

If the mother is moderately strong the infant should not have any other food than the breast. It is most important to keep the child if possible *entirely* to the breast. There is no food equal to mother's milk. It is superior to every kind of artificial food. A child fed on the good milk of a healthy mother rarely has stomach or bowel affections; it is contented and happy; the bones and muscles grow and develop; and its limbs become plump and rounded. Mother's milk prepares the child

* I may here remark that families may be too large. See the Author's work "The Wife's Handbook," published by R. Forder, 28, Stonecutter St., London, E.C.

for the long battle of life, it gives it strength to resist disease, and enables it to cut its teeth easily and well.

Mixing of Breast Milk. A mother must either suckle her baby entirely, or it must be artificially fed. Mother's milk and cow's milk must on no account be mixed. Many a child has been made ill and its life endangered by allowing it to take the breast milk one part of the day, and cow's milk or some artificial food another part of the day. It must be the one or the other, either *entirely* mother's milk or *entirely* artificial feeding. There must be no mixture.

Nothing can be more erroneous than the idea that an infant cannot be supported by the breast alone, and therefore ought to be allowed something more substantial. Dr. John Clarke says: "To give an infant the best chance of health, it should live exclusively upon the milk of a healthy woman, and that woman should be its mother, if she is healthy and capable of nursing it. Scarcely anything will compensate for the want of this natural support."

"No rank or station of society, can plead an exception from the exercise of the natural and moral duties; and every healthy woman who suckles her own child, not only discharges a claim which her child has upon her, but sets an example to her equals and inferiors which may be productive of the best consequences."

"It is therefore of more consequence that people in the higher stations, if they are healthy and strong, should devote themselves to the care and suckling of their own children than any others, because the effect of their example is greater and more widely diffused. Besides, the milk secreted by the mother varies very much as the age of the child advances, and that which is adapted for a child seven months old, is by no means composed of the same proportion of constituent parts as it was six months before."

Mother's Milk. Mother's milk is composed of water, various salts, sugar, oily matter, and a kind of albumen* called *caseine*. Now *albumen* and *caseine* are the raw materials, from which the tissues are built up throughout the whole life of man, and they may be *transformed* into *any* of the compounds which are to be found in the body. Since the milk consists of water, holding in solution the peculiar albuminous substance called *caseine*, and various salts, together with sugar, and having oily globules suspended in it, it contains the three classes of organic principles which form the chief part of the food of animals; namely, the albuminous, the sugary and the oily, together with a small portion of such salts as are required for the development and growth of the infant's body. The salty matter contained in milk is nearly identical with that of the blood; having, however, a larger proportion of the phosphates of lime and magnesia. It is therefore very evident that the elements of milk and those of the blood closely correspond, from which we may justly gather that in the milk of a healthy woman, and of a healthy cow, may be found all the materials necessary to the formation of blood, cartilage, bone and muscle, and consequently all that are required for the nutrition, growth, and consolidation of the body of the child during the first year of its life. The mother will now plainly see how very essential is her breast milk to her baby, and how unwise it is to substitute anything for it.

Crying. The mother must not suppose because her baby cries that this crying always indicates hunger. She should try to discover the cause of her infant's distress, for babies cry from other causes besides hunger, and to give the breast or food under such circumstances is most injurious. *Always* to try to stop crying by feeding is an irrational and dangerous practice. Crying is the only way in which an infant can express any disagreeable feelings. For instance

* *Albumen* resembles the unboiled white of egg, and derives its name from the Latin word *albus*, white. This substance in milk is mainly present in the form of *caseine*, which yields white clots or curds. It is the basis of cheese.

a baby may cry from colic or indigestion, yet to try and stop the crying by food would here only aggravate distress. Every mother should learn to distinguish the different cries of her child. The cry of hunger usually begins after a sound sleep. The cry is not peevish, and generally stops when the baby sees the breast. It then shows signs of pleasure, clinches its hands and bends its limbs. Where there is indigestion the cry is peevish, the skin is hot and the breath sour. When colic is present the cry is violent and occurs in paroxysms; the face is livid and presents an appearance of suffering; the body (abdomen) is hard and swollen; the hands and feet are cold to the touch; the legs are drawn up or kicked about violently; and wind escapes in explosions from the mouth or bowels.

Now, to relieve the cry of hunger food is necessary, but to give it under other circumstances is most injurious. Colic and indigestion mostly arise from wind collecting in the bowels and stomach, the result of fermentation of food. When a baby therefore is suffering in this way it is quite true that warm milk will give relief at first, just the same as any other warm fluid would do. But this relief and consequent cessation of crying is only temporary, and the first milk taken soon ferments and the pain and distress are considerably aggravated so that every nursing is soon followed by more pain, until "between crying and sucking and sucking and crying, the infant's life is passed in misery, if not cut short altogether." Instead of constantly feeding the baby to try and relieve its distress in colic or indigestion, it should be put less frequently to the breast, and allowed to lie there for a shorter time, and medicine should be given to cure the conditions which set up trouble.

In the first chapter I told how to feed the young baby up to the fourth day. About that day the flow of milk is usually fully established and regular suckling commences.

How to Hold a Suckling Child. A mother should know the best position in which to nurse her infant. When giving the breast the baby should be held partly on its side,

either on the right or left arm, according to the breast employed, while the mother's body is bent forward. In this way the nipple falls easily into the infant's mouth. The breast must be steadied with the first and second finger of the hand at liberty, placed above and below the nipple. Should the milk run too freely—a condition very apt to excite vomiting—the flow may be regulated by gentle pressure with the supporting finger. As previously stated the mother should nurse from each breast in turns. A healthy child may be allowed also to feed until satisfied.

Suckling— During the first six weeks the baby should be fed every two hours, from five in the morning till eleven at night. The night

the first six weeks. should be consecrated to repose, and this may most readily be managed; for healthy children are so much the creatures of habit, that they will easily fall into a systematic and regular plan of this kind—a plan which will also contribute to their comfort and well-being. A nursing mother ought always to have at least six hours of uninterrupted repose. If she has not, her general health is likely to suffer, and consequently she will not be in such good form for prolonged suckling. It does not do, therefore, to put the baby to the breast during the night, every time it wakes and cries, for this gets it into bad and irregular habits. With a little patience, extending at most over a week or two, a baby may be got into the habit of sleeping at night, and there is no further trouble in the future. If the baby is fed at eleven p.m. and not again till five a.m., it will take no harm. A baby can be so trained as only to expect food at certain times, and this is what every wise mother will attempt to do. Of course there are babies who require feeding more frequently, and some who require to be fed once or twice at nights, but these are exceptions, and a mother will soon find out by close observation how often her baby should be fed.

I have mentioned, elsewhere that the baby should always sleep alone either in a crib by the mother's bed

or in an adjoining room under care of a careful and conscientious nurse. Mrs. Barwell in her work on "Nursery Government" says: "Children who are suckled will rarely lie in their own beds, if they sleep in their mother's room. They have a sort of instinct at a very early age which impels them to sleep at the breast, and this instinct make them conscious of the near neighbourhood of the mother. This is proved by the well-known fact that a child will lie in its own cradle until the hour that its mother goes to bed, and then there is an end to its previous quiet—it wakes, and will no longer sleep alone. It is better that it should do so; and both mother and nurse will find that it is the best plan for the former to suckle her child the last thing before she retires to rest: if it be asleep, let it be taken up (it will soon wake regularly at the right hour), and the next time it requires to suck, let it be wrapped in a blanket, carried into its mother's room, and having made its meal, again go back into the nursery. A child thus managed, will frequently not require to be suckled until five or six in the morning. By such a regulation, both the parents and the child have a healthful night's rest."

"A nurse may object to the trouble of getting out of bed and taking the infant to her mistress; but if she be provided with a warm wrapping-gown, and a pair of felt slippers, she will take no cold, and habit will soon accustom her to the duty. She will be afterwards rewarded by the child sleeping through the night, and enjoying the health and cheerfulness which such rest invariably produces; while on the contrary, a child who sleeps interruptedly will always be restless and fretful."

Suckling— *after the first six weeks.* It may be taken as a general rule, that after the sixth week and till the termination of the period of suckling, a baby should be put to the breast every three hours between the hours of five a.m. and eleven p.m. The child should now be allowed to lie longer at the breast, for as it grows its appetite and capacity for food increase, and correspondingly the quantity of milk secreted by the breasts is increased.

Mother unable to suckle.

Supposing now that the mother is not able to suckle her baby herself, what ought to be done? The mother must be sure that she cannot suckle, not jump hastily to the conclusion that she is unable to fulfil that pleasing duty. Many women who think they will be pulled down by nursing find how with a little perseverance their health is improved, and how much stronger they become by regular systematic suckling. Nervousness and hysteria are often cured by suckling, and women seldom miscarry who suckle their children.

Conception and Suckling.

There is a popular opinion that a woman who is giving the breast cannot conceive as long as that function is performed. This, however, by experience has convinced me is totally untrue, and a woman who relies upon suckling as a preventive of conception will often be woefully disappointed.*

A mother should always if possible nurse. It is a duty she owes to herself and a double duty to her child. The children of the labouring classes are often stronger and healthier than those reared in the lap of luxury, and the chief reason of this is—the wife of the working man generally suckles her children, and in the higher circles the infants are either not nursed at all, or only for a short time. It is terribly true that a very large number of infants die from the mere fact of being deprived of healthy breast milk.

Method of Artificial Feeding.

Now, if a mother cannot by any possibility suckle her baby, there are three methods of feeding it rationally. Either a wet-nurse should be procured, the infant fed with sterilized cow's milk, or be fed on an *artificial* food which in its entire composition closely resembles mother's milk.

There are certain cases in which a wet-nurse, with all the penalties which may attend the choice, is to be preferred to the risk of the baby perishing without one.

* See "The Wife's Handbook."

These cases are, first, where, the mother being incapacitated for nursing, the child is very young and feeble, the weakness arising from its immaturity and natural delicacy of constitution, or from the previous illness of the mother. Secondly, when the mother has an unsound constitution, the evil influence of which has been observed in her offspring, or which there is solid ground to fear may be communicated to her child, or where the breasts of the mother are not well forward, the nipples having been injured or destroyed by the dress, or milk in sufficient quantity is not secreted. Thirdly, where the mother's milk has so far disagreed with the child as to produce either bowel complaint or wasting. And fourthly, where the experiment of bringing up by hand has been fairly tried and it has not been found to answer.

The chief advantage of feeding from the breast of a wet-nurse is that the mother's milk is replaced by the milk of another woman; natural feeding is continued, which is of great importance with weakly infants. Against this is to be weighed the disadvantage of finding in a wet-nurse all those moral and physical characters which are so essential in one who is to take the place of the baby's own mother. Many a young woman who has been introduced into a family to fulfil the duties of a wet-nurse has only deceived and annoyed, and on account of some slight misunderstanding has deserted her charge to the imminent danger of its life. I would, therefore, say that on the whole, I prefer—in cases where the mother cannot nurse herself—careful bottle-feeding either with sterilized milk or with a scientifically prepared artificial food. As, however, there are some infants who if their lives are to be saved must have human milk, I here give some rules for choosing a wet-nurse.

The Wet-nurse. A wet-nurse should be between twenty-two and thirty years of age. Her health must be perfect. She must come from a family free from consumption and scrofula. It would be advisable to ascertain whether she or any of her family have seams or swellings about their necks. Her skin should be free from all eruptions or

blotches. It must always be rigorously inquired into whether she has or ever had syphilis. She must be strong and robust, inclined to be spare rather than fat. In disposition she must be cheerful and good natured. Her habits must be active, careful, and *very* temperate. A woman who has small-flaccid breasts, or excoriated or cracked nipples, or who menstruates during suckling, or who is of a passionate or otherwise bad disposition, should not be employed as a nurse. If the candidate for the post of wet-nurse has a clear bright eye and a mild expression, with an open, good-tempered countenance, these must be considered strong recommendations.

A woman subject to violent passions of the mind must never be selected as a wet nurse. Such passions always change the character of the milk; they render it thin and yellowish, and cause colic and flabbiness of the flesh of the child. In fact no woman who suffers from any exciting or depressing passion of the mind, such as violent anger, grief, sorrow, and mental anxiety can be eligible to the office of nurse. I have referred elsewhere to the mischievous effect of passion on the milk and consequently on the infant.

The breasts of a good nurse need not be very large, but they should be firm to the touch and pear-shaped. The nipples must be well developed and prominent, and the blue veins should be distinctly seen in the skin of the breasts. The breast must secrete a plentiful supply of milk of good quality. If a little is milked into a glass it should if of good quality be thin, dull or bluish-white in colour, of a sweet taste, and when allowed to stand for a while should throw up a considerable quantity of cream. Good milk is always alkaline, *never* acid.

A woman who menstruates during suckling must not be selected as a wet-nurse. Her milk is never so good. The late Sir Charles Locock considered that a woman who menstruates during suckling was objectionable as a wet-nurse, and "that as a mother with her first child is more liable to that objection, that a second or third child's mother is more eligible."—*Chavasse*.

A nurse should not be of weak nerves. Her bowels

should be rather costive than otherwise. Her own babe must be strong and healthy, and free from a sore mouth, or from any eruption of the skin. One must try, too, always to obtain a nurse direct from the country.

The baby of the wet-nurse should be of about the same age as the baby she is hired to nurse, as the milk varies in quality according to the age of the infant. The older an infant grows and the more support it requires, and nature has in consequence provided that the breast milk should become more nourishing in proportion to the age of the child. It does not do for instance to suckle a baby of a month old from breasts which have been secreting milk for four or five months.

If a baby is very small and feeble the nipples of the wet-nurse selected must be good and soft, yet not too large. The infant's mouth being small it would not be able properly to hold the nipples if large. The milk ought to flow readily from the nipples into the child's mouth; if it does not, it will not have strength to draw it, and would soon die of starvation. When a feeble child is put to the breast, it is always advisable to examine its mouth *immediately* after taking the breast to see if there be milk or not in its mouth.

Many new-born babes are unable through sheer feebleness to take the breast, even though the breasts and nipples be properly developed, and the flow of milk perfect. In such a case it is best to milk the breasts and give the baby the milk in small quantities at a time—say two to four teaspoonfuls, every hour or so day and night, till it can take the breast properly. If this constant milking of the breasts should be found too fatiguing to the nurse or mother, I would recommend sterilized cow's milk mixed with the same quantity of warm water, slightly sweetened with loaf sugar, and with a small pinch of salt added. Such feeble children require constant feeding (every half-hour or every hour) day and night.

A wet-nurse ought to be able to nurse with both breasts for reasons previously mentioned.

One of the best tests of the quality of a nurse is the condition of her own child. If this is well developed and well nourished one may feel assured that her milk is good. On the contrary no woman should be engaged whose own child is weak and ill-nourished. Never engage a wet-nurse unless she has been thoroughly examined by a medical man.

On the whole, however, considering the perfection to which artificial nursing of infants has been brought of late years, I would say that wet-nurses should only be had recourse to in cases of absolute necessity; in general, society suffers from this class of people; for, though the foster child may go on very well, yet the child of the wet-nurse is by this means deprived of its proper support, brought up by hand, perhaps under the care of one who has little regard to its welfare, and in such circumstances it very frequently dies.

Health of Nursing Woman. A woman who is suckling, whether wet-nurse or mother, must take particular care of her own health, otherwise her milk will be deficient either in quantity or quality. A good diet of plain and easily digestible food is very necessary. Meat, fish, eggs, milk, vegetables and fruit must all be taken in proper proportion. Pastry, shell-fish, high-seasoned dishes, vinegar and pickles should be avoided.

A nursing woman must as far as possible be free from all cares and worries. She should take regular exercise in the open air. Over fatigue either physical or mental must be avoided. There must be abundant time for rest and sleep.

Should the milk show any signs of becoming scanty it may usually be increased by good meat soups or broths, chocolate, cocoa, milk and oatmeal gruel. On the whole stimulants should be avoided by nursing women. If on account of lessened vitality or want of tone a stimulant be required, I know nothing better than one or two wine-glassfuls daily (directly after food), of Glendenning's Beef and Malt Wine. It is a most excellent restorative, and possesses this advantage that it does not

in any way deteriorate the milk as most other stimulants do. Malt extract and Parke, Davis & Co's Pure Powdered Bone are excellent for all nursing women.

A wet-nurse must never be allowed to dose the infant under her charge with any kind of medicine. She must be made to thoroughly understand this. Many a

child has been ruined in health by being dosed with soothing, teething and aperient medicines, by ignorant and wilful nurses.

If the mother cannot suckle her infant, **Artificial** and is unable or unwilling to engage the **Feeding.** services of a wet-nurse, it must be reared artificially.

Now, before discussing the methods of preparing artificial foods, it is needless to state that all such foods should always be taken from a bottle. Bottle feeding is a more natural way than any other of feeding an infant, as it is obliged to suck in exactly the same manner as when taking the breast, and the act of sucking also squeezes out the saliva from the glands in the mouth, which mixing with the food assists digestion. A baby fed by means of the bottle seems better satisfied and comforted than if fed by spoon or boat.

Indeed, so successful is bottle feeding on the whole, that, when the choice lies between it and a hired wet-nurse, a sensible mother will often give it the preference unless she can be very sure of hiring a healthy, good-tempered, careful, and thoroughly conscientious nurse. Alas! where are such now to be found?

When an infant is bottle-fed it is not so likely to over-suck, for finding that a little exertion is required to draw the milk it usually desists when fairly satisfied. An infant, however, fed by the boat or spoon and subject only to the trouble of swallowing the food is tempted to take too much at a time. Careless or over-indulgent mothers are also tempted to force down an additional quantity of food in order to put a stop to the cries, which, indeed, may have had no other cause than indigestion brought about by previous over-feeding.

Feeding at the breast is necessarily slow feeding, and since this is nature's mode of imparting nourishment to the child, that mode should unquestionably be imitated as closely as possible in rearing an infant by artificial means. It is one of the highest recommendations in the use of the feeding-bottle, that children fed by it are frequently hungry, which is what nature designed them to be—the food sits lightly on the stomach, and being easily digested, like the breast milk, they need a frequent supply of the milk or other food given them.

The Feeding Bottle. The bottle must be used from birth until the time when the infant begins to take more solid food. In fact, for milk and all liquid preparations it may be used until the child itself tires of it.

The only form of feeding bottle which should be in use in the nursery is the simple bottle and tip. If this was universally used, a large number of infant lives would be saved. T. Egginton's Improved Graduated Feeding Bottle, in my opinion, answers all the requirements of a perfect feeding apparatus. It is of the shape shown in the wood-cut (Fig. 2). It has a graduated scale of table-

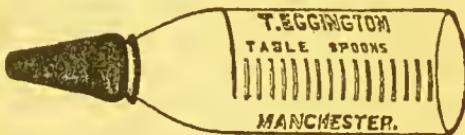


Fig. 2.

spoons so that the food can be very accurately measured, thus guarding against under or over-feeding; it is easily cleansed, and, being free from all complications of glass and rubber tubing, cannot collect the least foulness like the ordinary tube feeding bottles do even when great care is exercised. The tube bottle, so widely used in this country, on account of the difficulty in keeping the glass and rubber tubes sweet is a fruitful source of sickness and death. Now, a bottle like the Egginton in which the slightest foulness can be detected at a glance, and where absolute cleanliness can be ensured, should certainly be used by every mother. If this form of bottle consisting of simple bottle and rubber tip or nipple was used, most of the objections to bottle-feeding would vanish.

It is advisable to have two bottles on hand at a time, which should be used alternately.

Cleaning the Feeding Bottle. In the use of the feeding bottle, great care is required to preserve it sweet, and the following directions ought to be very carefully and constantly observed :—

First.—Never put a second supply of milk or food upon the remains of a former one, and as soon as the child has taken as much as it pleases, or as may be considered proper for it, let the bottle be emptied of any food that remains, and be instantly cleansed with boiling water, and then filled with a solution of bi-carbonate of soda—one teaspoonful to a pint of water—and thus allowed to stand till next required; then the soda solution being emptied out, the bottle must be very well rinsed out with cold water before fresh food is put into it.

Secondly.—The rubber tip or nipple of the bottle must be taken off at the end of each meal, it must be well cleansed outside by rubbing it with a stiff brush wet with cold water, then turned inside out and rubbed in the same way, and finally placed in cold water and kept there till again wanted. Every feeding bottle should have two nipples so as to be used alternately.

The mother should always smell the bottle and nipple before use so as to be able to detect any sourness.

The hole at the point of the nipple must always be kept free, it must not, however, be so large as to allow the milk to flow without suction.

Never clean a bottle with a bottle-brush, as if some of the bristles become loose and remain undetected in the bottle, they may be sucked into the child's throat.

I may mention that a good bottle of the kind described may be had from sixpence to a shilling.

Preparing the Milk. Each meal should be separately prepared directly before it is given. If the whole day's supply is prepared at once, it will undergo a change before the end of the day and be unfit for the baby to take. Never, therefore,

to save trouble, prepare a large quantity of food at once, only just what is wanted for each meal. Any food that is left from the meal must be thrown away. Let a mother or nurse be sure to observe this rule, it will save many an infant illness.

Position of Child in Feeding. It is a bad practice to feed the child lying down; a half reclining position in the lap is the best. In feeding with the Eggington bottle,

it should be held at first horizontally, and as it is emptied gradually tilted up more and more, so as always to keep the neck of the bottle full, and thus prevent drawing in and swallowing of air. Never hurry the child in feeding, give five, ten, or fifteen minutes for each meal, according to the quantity of the food. Every now and then withdraw the bottle during the meal for a short rest. The child should not be allowed after its meal is over to suck at the empty bottle.

The infant must on no account be left by itself with the nipple in its mouth, not even for a moment. It is not proper to allow the feeding bottle to become a plaything for the child. To endeavour to appease its cries by this indulgence paves the way for a fresh supply of food too quickly, whereby the process of digestion is constantly interrupted, from the previous quantity not having been disposed of. In consequence of this, a part of the food passes from the stomach into the bowels nearly in the condition it was received, and thus being imperfectly assimilated, it ferments, becomes sour, and produces colic or diarrhoea. Hence many children who are always eating are nevertheless always thin, and their flesh flabby.

Cow's Milk, Asses' Milk, and Goat's Milk. When from want of milk, or from absolute necessity of going to work, or from other equally weighty reasons, a mother cannot suckle her infant, the next best thing, as a rule, is to feed it on cow's milk properly prepared.

Asses' milk, and next to that goat's milk, come nearer in composition to human milk than cow's milk does, and if they could be easily obtained would form a very suitable diet for infants brought up by hand. Unfortunately, however, they are both expensive and difficult to obtain. If there is opportunity to procure either one or the other, I should certainly advocate their use over all other artificial feeding. The ass or the goat ought to be milked fresh when the milk is required, and only the quantity for each meal. The milk must be given by means of a feeding bottle of the kind described.

If neither asses' milk nor goat's milk can be procured, then the best substitute for mother's milk is good cow's milk, and indeed this, when thoroughly sterilized, forms an ideal diet for infants, and they require nothing else.

Sterilization of Milk. It may be well to explain what sterilization of milk means. Now, cow's milk is very prone to absorb from the air gases and various kinds of living germs, for the latter of which it acts as a cultivating medium. The milk that a baby takes direct from the breast cannot be contaminated by any atmospheric impurities, but that which has been drawn from the cow, and exposed to the air, will be found to contain various non-living and living particles. Of these materials, the most objectionable are the living germs or microbes, certain kinds of which cause the milk to turn sour. Milk that is turning sour is most dangerous for a baby, for it may set up very obstinate diarrhoea or colic.

Effects of Germs in Milk. The very small live particles or germs which give rise to infectious diseases may find their way into cow's milk, either from the air, or from water which has been employed for washing the dairy utensils, or from water which may have been used in adulterating the milk. Scarlet fever, typhoid fever, diphtheria, and other diseases have over and over again been traced to milk supplied from shops or dairy farms

where the disease existed. If a cow is suffering from tuberculosis or consumption, it is now well known to science that it can transmit that disease through its milk to an infant consuming it.

Cheese Poison in Milk. Again, it has recently been dis-

covered by Dr. V. C. Vaughan that there is at times a certain kind of poison developed in cow's milk which

he calls *cheese poison*. Now, this poison is usually developed in milk at those times when milk is apt to decompose rapidly, as in hot weather, or when it is put in places where it is soon liable to ferment. This poison acts as an irritant to the stomach and bowels, and sets up a kind of infantile cholera, that often proves fatal to young children fed on this altered milk. It is a poison very likely to originate in milk when there is careless collection and transportation of the milk, especially in close weather.

The Process of Sterilization. "Sterilization" is a process of purifying and preserving cow's milk by subjecting it to heat in such a

manner as to destroy in it and prevent the formation of disease germs. The milk, in fact, is made *sterile* or free from all noxious living particles. A simple means, therefore to counteract the dangers to which the baby is exposed through the use of cow's milk is to sterilize it as wanted.

Method of Sterilization. There are several methods of sterilizing milk, but I shall mention only one, which for extreme simplicity, quickness of application, and cheapness, should ensure its being universally adopted. I may say, however, that milk was at one time usually sterilized in a number of small bottles, and the bottles were used one at a time for each meal, as required. This method had defects, for when the milk got cold, the cream rose to the surface and stuck around the narrow necks of the bottles, and consequently the baby was in most cases fed upon nothing but skim milk.

Dr. Aymard, of Ipswich, devised a scheme for

sterilizing milk in a rational and effective manner. His apparatus is so very simple that every nurse and mother can with it sterilize large or small quantities of milk with ease. It is founded on the plan of raising milk to such a temperature (200 degrees F.) that all disease germs in the milk are at once killed.

The Aymard's Patent Sterilizer, as it is called, consists of an outer pan with a lid, in which a small quantity of water is boiled, and an inner pan with a lid, which contains the milk to be sterilized. The steam of the boiling water in the outer pan surrounding the inner pan containing the milk, raises the milk to such a temperature that it is completely sterilized in about six minutes. By this method of milk heating the milk cannot burn or boil over, the cream remains intimately mixed with the milk instead of rising to the top, as when sterilized in bottles, and the milk retains its natural delicious taste, and all its good and nourishing qualities. At the same time it is converted in its digestive characteristics to the condition of mother's milk, the excess of *caseine* in the cow's milk* being deposited upon the sides of the pan containing the milk. This sterilizer is shown in Fig. 3.



Fig. 3.

I cannot do better than quote the directions for use:

"First place hot water to the depth of about half-an-inch in the lower saucepan, cover with the lid and allow to boil freely. Next remove the lid and place the milk chamber in position, filled with the requisite quantity of milk, cover with the small and large lids, and allow the water to continue to boil freely. No amount of steam will be given off until the milk is nearly ready for use, the steam at first condensing upon the cool milk chamber.

* Cow's milk naturally contains more *caseine* than mother's milk, consequently it is more difficult of digestion by a young baby. When sterilized by the Aymard's process, however, it becomes almost identical with rich mother's milk, and can be taken undiluted.

The milk must be allowed to remain at least *six minutes* in the saucepan before it is sterilized, a few minutes longer will not matter but it must not be less. The lids need not be removed to pour out the milk. For infant feeding stand the chamber in cold water for a few minutes before pouring into the feeding-bottle, which has been previously well scalded. In sterilizing milk for household use it must be kept from the air as much as possible, after sterilizing it should be placed in a clean jug or other vessel and covered with a perfectly clean cloth. The skim which rises on all heated milk should be removed, it must not be mistaken for cream or as an indication that the milk has boiled. Milk must be sterilized at night as required, and should never be allowed to heat all night in a bed-room."

Aymard's Sterilizer can be obtained from the Aymard's Patent Sterilizer Company, 19a, Coleman Street, London, E.C. I should recommend for the nursery the three-quarter or one pint sizes which may be obtained from 3s. 6d. to 5s.

The sterilizer can be heated either on the fire or over a good spirit lamp.

Feeding with Sterilized Milk. An infant, however young, can be fed on sterilized milk, entirely undiluted with water. Dilution is hardly ever necessary unless it be between the third and fourth day after birth (see Chap. I), when a little water might be added to the sterilized milk—say half and half. A little sugar-of-milk, about the proportion of one teaspoonful to a quarter of a pint, and a small pinch of salt should be added to the sterilized milk. Sugar-of-milk can be bought of all chemists, and being similar to the sugar contained in mother's milk is on the whole preferable to lump sugar. (If the bowels be costive, use *brown* sugar).

How few mothers put salt with their infant's milk, and yet, how necessary it is. A small pinch added to the milk is most wholesome, it strengthens and assists digestion. A child would rarely be troubled with worms

if salt was given daily in small quantities. It may be given with advantage to the youngest infant.

An infant does not require such a large quantity of fluid nourishment when it is fed at regular intervals on undiluted sterilized milk.

It should be remembered that at birth an infant's stomach is very small, and that it is hurtful to over distend it with food.

Two table-spoonfuls of sterilized milk should be given every two hours during the daytime, between five a.m. and eleven p.m.

The milk must be given by means of the simple bottle and tip (Egginton's). On no account must the infant be fed through the ordinary glass and rubber tube feeding bottle. Germs of various kinds are very apt to collect in the tubes of this latter kind of bottle, and so nullify the good results of sterilized milk feeding.

During the first five or six weeks of infant life, from eight to ten ounces* of undiluted sterilized milk should be given in the twenty-four hours. As the baby gets older there should be a longer interval between each feeding, and the quantity of milk taken during the day should be gradually increased, until at six months of age about a pint and a half of milk may be taken in the twenty-four hours.

Whenever a baby requires to be fed, the milk must be sterilized then and there. It must never be kept cooking all night over a night-light. The milk the baby leaves must be thrown away, not used for a second meal.

It is better to have the mixed milk of a good herd instead of milk from one cow, as was formerly advocated. There is less variations in the quality of the milk when mixed than when procured from one animal.

Be sure the milk is unadulterated. In order to test pure milk, put a clean knitting needle in the liquor and draw it out; if the milk clings to the needle, and drops off the end slowly, it is unadulterated; if it runs off there is undoubtedly an admixture of water.

* A fluid ounce equals two table-spoonfuls.

For the first six months of an infant's life no kind of farinaceous or starchy food should be mixed with the sterilized milk. The secretions which are necessary to digest any diet other than milk are not developed in the infant, till after its sixth month.

Temperature of Milk. The milk must be given to the baby at a temperature of ninety-eight degrees Fahr. (never nearly cold as I have seen it administered by some mothers). The temperature of the milk must always be taken with the Nursery Thermometer—the proper degree of heat is marked on the scale *Baby's Food*. Never guess at the temperature.

Sugar not Agreeing. Sometimes the baby will bring up the sweetened milk, and the milk thus ejected will smell sour. This is due to the sugar not agreeing. In such a case feed on the sterilized milk alone, adding only a little salt. In a few days the baby will be all right again, and that too without taking medicine. There is plenty of nourishment in sterilized milk alone to make the baby thrive, for after all it is the milk that is the important ingredient in all the foods of infants. On it alone they can live, and grow strong.

Let me again remind mothers and nurses that a few shillings spent on a sterilizer as described, will be the means of saving much expense in illness—for a child fed on sterilized milk will rarely suffer from bowel or stomach affections, and its chance of taking infectious diseases will be very considerably diminished.

Condensed Milk. Condensed milk is very largely used to feed infants upon. My opinion of it is that it forms a very poor substitute for mother's milk or sterilized cow's milk. As a rule it does not digest well, and babies fed upon it do not really thrive as they should. As a food, it does not contain sufficient nutrient material to supply all the wants of a baby who is growing.

Condensed milk contains a large proportion of cane

sugar (ordinary sugar). This is added to it in the process of preparation to preserve it. Now, cane or ordinary sugar is very apt when given in large quantities to ferment in the stomach or bowels, and such fermentation hinders digestion and sets up bowel trouble and often colic. Another objection to condensed milk is that it soon decomposes when exposed to the air, and collects disease germs. Again, the *caseine* in condensed milk is usually present in an indigestible form.

I have heard mothers say, when calling attention to a baby fed on condensed milk: "Is it not a beauty? See how fat it is?" It is true, it may be fat when thus fed, but closer examination will show it to be pale, flabby, and lethargic. It is not strong, has little disease-resisting power, does not cut its teeth till late, and is very prone to become rickety. Therefore, on the whole, condensed milk is not a suitable article of diet for infants.

Now and then we meet with children **Other Foods.** in whom no form in which cow's milk can be given will agree, but such infants will easily digest and thrive upon other foods such as barley water with a little cream. Milk too, when mixed with other suitable foods, will sometimes agree better than when given by itself.

A very good artificial food is one composed of Robinson's Patent Barley and sterilized cow's milk. Warm water is mixed with the Patent Barley to the consistence of milk, and then the sterilized milk is added (both water and milk being at a temperature of 98 degrees) and the food given through a bottle. It is best to begin with one-half of sterilized milk to one-half of barley liquid, and gradually increase the proportion of milk as the infant grows, until its stomach can digest all milk, which will usually be, if sterilized milk is used, within six or eight weeks of birth. Robinson's Patent Barley is a very old food. I have a good opinion of it. I have seen emaciated, worn-looking children, who suffered from colic and bowel complaint, shortly after taking this food quickly pick up flesh, grow fat and healthy looking, begin to sleep, lose all pain, and their

previously offensive green coloured motions become sweet and healthy looking.

Now, let it be quite clearly understood that a mother must either nurse her infant from herself *entirely*, or she must *entirely* hand-feed it. To mix mother's milk with cow's milk, or with any other kind of artificial food, is never satisfactory, and in some cases leads to illness of the baby, or even endangers its life.

A baby must on no account

Farinaceous Food. whatever, be given any kind of farinaceous food (that is food containing starch), until it is about seven or even eight months old; until then it cannot digest any form of farinaceous food.

Farinaceous food as I have just said contains starch. Starch in order to be digested ought to be converted by the saliva, and pancreatic juice into sugar and dextrine. A baby's salivary glands, until it is six or seven months old, do not pour out the proper fluid to convert the starch in the farinaceous foods into sugar, consequently when such foods are given to an infant under six or eight months old the starch remains in the stomach undigested, and acts as a dangerous irritant upon the digestive canal, causing the formation of "wind and colic," often followed by convulsions.

Infants fed on nothing but farinaceous foods would soon die of starvation, because they would be unable to extract any nourishment from the so-called food. As Dr. Chavasse aptly says: "The giving of farinaceous food, until a child be six or seven months old, is one of the principal causes of the frightful infant mortality at the present time existing in England, and which is a disgrace to any civilized land."

All the farinaceous substances which the poor so often select to feed young infants upon in place of mother's milk, are bad foods, because the starch contained in them lies undigested in the stomach and bowels, ferments and forms irritant products which quickly induce a condition of catarrh of the mucous membrane of the digestive canal.

Arrowroot, cornflour, bread, sago, tapioca, semolina, potatoes, and other starchy foods are quite incapable of supplying material for nourishment and growth at an early stage of life, and must be rigidly avoided.

In nine cases out of ten the griping, flatulency, looseness, and vomiting, which so frequently harass infants during the first six months of their life, are solely the results of indigestion brought on by errors in feeding with farinaceous foods. To feed a young infant on soaked bread or on cornflour is the way to weaken it or even kill it. Therefore, avoid all farinaceous foods until the infant is at least six months old.

There are a large number of proprietary articles called by various names, which are now sold by chemists and grocers as infant foods. Some of these contain farinaceous substances and are quite unfit for very young babies. They all differ, however, very much in their qualities. Each food is usually described to be "well adapted for children from the earliest periods." Some of these foods are extolled as containing the greatest possible amount of nutriment, but, as a rule, these are exaggerated statements, mere puffs to secure a sale. Some such foods are composed mainly of rice or potato flour, some of arrowroot and potato flour mixed, and some of pea, bean, lentil or wheat flour. Such foods, though they may be more or less nourishing to older children, are totally unsuited for infants under six or seven months of age, and may even be actually dangerous.

Although as I have said before, I believe sterilized cow's milk solely to be the best diet for young infants, yet there are some children who thrive better on a prepared food. Again cow's milk is not always as good as it might be, it is frequently falsified and impoverished by the removal of cream and the addition of water. When water is added to milk and the cream is removed, the milk becomes thinner and less nourishing, and its value as a food is reduced. Milk, too, has other materials often added to it to preserve it from decomposition during transit, such as boric and salicylic acids. Either of these added to the milk renders it injurious to the

child. For these reasons a scientifically prepared food, made to resemble in all its constituents mother's milk, and perfectly digestible, may be used with advantage to feed the infant. I shall, therefore, mention some of those infant foods which in my opinion fulfil all the conditions of a rational and proper artificial diet.

Mellin's Food entirely fulfils the conditions which are necessary in a perfect food, adapted not only for infants but for children of all age. It is a food which is easily prepared, converts cow's milk into the digestible form of mother's milk, prevents clotting of the caseine in the infant's stomach, and also makes the milk always alkaline. There is not a trace of starch nor of ordinary cane sugar in the food, and it is a perfect substitute for mother's milk in every respect.

Mellin's Food, I may say, is prepared from wheat and malted barley. Now malt contains a sort of ferment called diastase which is able under certain conditions to convert starch into dextrine and malt-sugar, in which forms the starch of the wheat becomes perfectly digestible when taken by the young infant. In fact the diastase does to the starch *outside* the infant's body exactly the same thing as the saliva and pancreatic juice do in older children and adults *inside* the body, namely, change the starch into soluble and digestible substances. The starch in the body of the mother is changed into a kind of substance which yields to her milk milk-sugar. The diastase in the malted barley contained in *Mellin's Food*, in a somewhat similar manner, changes the whole of the starch in the wheat into varieties of sugar, and so makes this food to assimilate in all its properties to the best mother's milk. The infant in fact receives from this food all the constituents of breast milk.

When *Mellin's Food* is added to diluted cow's milk, it forms a perfect food for the youngest babies, built up on the plan of mother's milk. It supplies materials which assure the digestion of the milk by the infant; it makes the caseine of the milk, which would otherwise be coagulated into a tough, hard curd in the stomach, light and flocculent as in mother's milk; in brief, the whole

character of cow's milk is so changed by the addition of Mellin's Food that it becomes exactly like breast milk.

The thorough conversion of the starch into soluble products, which can be made use of in the body of a baby, is what is aimed at in the process of manufacturing Mellin's Food, and this is so well brought about that I consider this food to be a thoroughly scientific combination, and one of the best of all artificial foods.

As I have previously mentioned, many foods largely advertised and puffed are not fit for a young baby under six or seven months of age. Starch is usually present more or less in each. Every mother and nurse ought to know how easily to detect starch in artificial food for babies, for if starch is present that food should be discarded at once as unsuitable for a young infant. The following simple experiment will enable starch to be discovered:—

A little of the suspected food should be mixed with water and heated, then allowed to cool. When quite cold, a few drops of solution of iodine should be added. Now, if the mixture turns blue or nearly black, *starch is present*, and the food is quite unsuitable. If, however, when the iodine is added to the food it simply stains it yellow or brown, *starch is absent*. Mellin's Food does not turn blue or black on the addition of iodine, it is therefore free from starch, and is a food which may be used with every confidence.

The usual way to prepare Mellin's Food is to dissolve the quantity required in a little warm water, and then add the remainder of the water and milk at a temperature of ninety-eight degrees as measured by Rauschke's Nursery Thermometer. The milk should if possible be sterilized.

For infants of three months and under the following are about the proportions:—

Mellin's Food Half a table-spoonful.

Water, 98 degrees Fahr... A quarter of a pint.

Milk, 98 degrees A quarter of a pint.

If the milk is sterilized as wanted and allowed to

cool down to 98 degrees before being added to the food, the above proportions of milk and water may be commenced with from birth. If, however, the milk has not been sterilized it may be necessary for infants much under the age of three months to decrease the proportion of milk, so that instead of equal parts of milk and water, there should be, say one-third milk and two-thirds water, or even one-quarter milk to three-quarters water. What, however, will suit one infant may not suit another, and a careful nurse when she sees the baby fretting on food of one strength should vary the proportions. If the child is doing well on food of certain proportions it is a mistake from mere caprice to change its diet.

Between three and six months the quantities of Mellin's Food and milk used may be gradually increased so as to meet the requirements of the rapidly developing body. It must, however, be continually kept in mind that a proportion of Mellin's Food sufficient to ensure the thorough digestion of the milk must at all times be used.

The frequency with which infants are fed is of importance. For the first three weeks or so the quantity given at each meal should be moderate; three to four table-spoonfuls every two hours, from 5 a.m. to 11 p.m., will generally be sufficient. This quantity should be gradually increased as the child grows older, and at the same time the child may be fed less often.

Bear in mind, however, that even with a digestible diet like the above, an infant must never be overfed. As mentioned previously it is a great mistake to feed a child whenever it cries, and a baby has various sorts of cries, and a mother should learn to distinguish such cries from the cry of hunger. Many babies cry from thirst, and in such cases a tea-spoonful or more of cold water should be given. In fact a very great mistake is made in withholding cold water from a baby. It should have a little given it several times a day in tea-spoonful doses.

Food must never be given *lukewarm* always at ninety-eight degrees.

It is better in preparing Mellin's and other foods, only to make at a time the quantity for each meal, and any left in the bottle from that meal to throw away.

When the infant arrives at six months, the proportions of food and milk must be increased:—

Mellin's Food	One table-spoonful.
Water, 98 degrees.....	Four table-spoonfuls.
Milk, 98 degrees.....	Make up half-a-pint.

When the sixth month is past, and up to nine months, more Mellin's Food should be added to the milk, and from twelve to sixteen table-spoonfuls should be given at a meal. Five meals in the twenty-four hours will now suffice.

Another food of high value is Mellin's Lacto-Glycose or Milk Food. This food consists of a dry powder prepared from the ordinary Mellin's Food and sterilized cow's milk. It is a food which simply requires to be mixed with warm water (98 degrees), and it is then ready for administration. It possesses all the properties of the Mellin's Food made with its proportion of milk. When there is a difficulty in obtaining good milk, or in hot, close weather when milk keeps but poorly, this preparation may be used as a true infant food with advantage. With some infants it will agree better than the Mellin's Food prepared with milk, and it should always be substituted when that does not suit the infant well.

Allen & Hanbury manufacture three kinds of food suitable for infants at different ages. Their "First Food for Infants" is specially adapted to infants from birth to three months of age. It is prepared from fresh cow's milk of the best quality, treated in such a manner that in composition it exactly resembles mother's milk. Their "Mother's Milk Food" is similar to the first food, but contains a little dextrine, and is adapted to infants under seven months of age. Both these foods are thoroughly sterilized, and, containing all the milk required, only need in their preparation to be mixed with hot water (98 degrees). Their "Malted Food" may be given to infants of seven months of age and upwards, and is

made from fine wheaten flour combined with a certain proportion of Malt Extract. In the preparation of this food it should be mixed with hot milk, perfectly sterilized. It affords a highly nutritive food, easily digested by all children of over seven months of age. These three foods are so arranged that, if the child be fed by hand from its birth, a series of foods is obtainable which is scientifically adapted to its progressive digestive requirements.

Messrs. Savory & Moore's "Food for Infants" I can recommend with confidence. It is thoroughly self-digesting and answers all the tests of a perfect food. Messrs. Burroughs, Wellcome & Co. have also introduced a kind of powder prepared from pancreatic juice, called *zymine*. When a tube of this incorporated with a certain quantity of bi-carbonate of soda, is mixed with milk or milk and water in certain proportions, and then heated in a particular manner, the milk is peptonised, as it is called, and on the addition of a little sugar of milk, the mixture becomes identical with mother's milk through the action of the added powder on the caseine, which latter can then be easily digested by the feeblest infant.

Let it be thoroughly borne in mind, that all kinds of food containing starch are totally unsuitable for an infant, until it begins to cut its teeth. If a child is hand-fed from birth, a selection should be made from the large and well-tried infant's dietary I have given. It should be remembered that sometimes one form of diet will suit a particular infant better than another. That diet which is found to agree must be kept to, as a baby requires a simplicity in food, and in this respect differs from an older child who requires a varied diet.

Preparing Food. In preparing a baby's diet great care ought to be observed that the food is neither ill-made, lumpy, or burnt. There should be great cleanliness of all the cooking utensils as well as of the feeding bottle. A mother should never, whatever her rank of life, leave the preparation of her infant's food to others.

Broths. Some people recommend broths for young babies I cannot say that I approve of them.

On the whole they are objectionable for an infant. They often cause wind and vomiting, and may even set up colic and diarrhœa. If owing to extreme debility, a young infant is unable to digest milk or any of the artificial foods mentioned, it may be fed for a while on a broth made from Peptarnis (Peptone of Beef).* One tea-spoonful of Peptarnis is dissolved in a tea-cupful of boiling water, and a pinch of salt is added. From one to four tea-spoonfuls, or even more, should be given at frequent intervals. This makes a very nourishing broth, easy of digestion, which is a quick restorative, and enables a baby to tide over the weakness until it can take milk food.

When a baby is about seven

Change of Food. months old a change may be made in the diet, as it is now possible for the infant to take a little farinaceous food with advantage to the digestive organs. Milk, until the baby is twelve months old, should, however, form the staple article of diet. From now to the end of the eighteenth month five meals a day should be given.

DIET FROM SIX MONTHS TO TWELVE MONTHS OLD.

First meal, 7 a.m.—One tea-spoonful of some farinaceous food to about twelve table-spoonfuls of sweetened milk, mixed, and very well boiled. Small pinch of salt added.

Second meal, 11 a.m.—The same quantity of pure sterilized milk. Pinch of salt.

Third meal, 1-30 p.m.—Same as first meal.

Fourth meal, 5-30 p.m.—Same as second.

Fifth meal, 10 p.m.—Same as first.

Instead of the above diet, the infant might have for each meal Mellin's Food (a larger quantity, however, added), or Allen & Hanbury's "Malted Food." Twelve

* Peptarnis is manufactured by the Liebig's Extract of Meat Co., Ltd. It is a most valuable invalid food.

to sixteen table-spoonfuls of the prepared foods is about the quantity for each meal.

DIET FOR A CHILD FROM TWELVE TO EIGHTEEN MONTHS OLD.

First meal, 7 a.m.—Bread and milk; or well-cooked oatmeal, or hominy, or porridge made from Stephensen's Union Jack Rolled Oats, with plenty of milk; prepared Mellin's Food, or Malted Food and bread or oatmeal.

Second meal, 11 a.m.—A drink of about twelve table-spoonfuls of sterilized milk, with one or two Mellin's Food Biscuits softened with milk.

Third meal, 1-30 p.m.—Bread crumbs or well-cooked boiled rice and gravy, or mealy potatoes and gravy, or very lightly boiled egg and bread and butter.

Fourth meal, 5-30 p.m.—Bread and sterilized milk, or one or two Mellin's Food Biscuits and milk, or "Malted Food" made all milk.

Fifth meal, 7.30 p.m.—Sterilized milk to drink, or Mellin's Food or "Malted Food" prepared with milk. About sixteen table-spoonfuls of either.

It is best to give the fifth meal at about 7-30 p.m., as then the child can be put to bed and left undisturbed till the first morning meal. Should the child, however, awake an hour or so before the first meal, it should have a cup of sterilized milk, and not be allowed to go hungry until the set breakfast hour.

DIET FROM EIGHTEEN MONTHS TO THE END OF TWO AND ONE-HALF YEARS.

Four meals a day are now quite sufficient.

First meal, 8 a.m.—A breakfast cupful of sterilized milk, the yolk of an egg lightly boiled, two thin slices of bread and butter; or about a breakfast-cupful of prepared Mellin's Food or Malted Food, with bread and butter, or well-cooked oatmeal porridge.

Second meal, 12 noon.—About three ounces of roast or boiled mutton, or a little chicken, four ounces of mashed potatoes or rice, and juicy gravy, a slice of

stale bread, and three or four table-spoonfuls of custard, rice, sage or tapioca pudding. Water to drink.

Third meal, 4 p.m.—About half a pint of sterilized milk, or of prepared Mellin's Food or Malted Food, two slices of bread and butter.

Speaking about butter this valuable article of diet should not be stinted. Growing children require a certain amount of fatty matter to keep them in health, and of all fatty foods good butter (not margarine, remember) is the best. It should be spread on the bread fairly thickly, not scraped, and a little salt sprinkled over it. Many mothers have an idea that butter is not good for children; this is a mistake, it comes almost next to milk as an article of diet.

Fourth meal, 8 p.m.—A breakfast cupful of sterilized milk, a slice or two of bread and butter, or a little thin cocoa made with milk, and bread and butter, or Mellin's Food with a few Mellin's Food Biscuits.

Neither tea nor coffee should be given to a child under two-and-a-half years of age. All alcoholic stimulants to a young child are poison.

If a child is thirsty it should be allowed to satisfy its thirst with water. The water must be as pure as possible (filtered), and should not be too cold. All children require water several times a day, and in reason the demand must be gratified.

Some children are unable to digest anything but milk food up to the age of two or three years, and, if enough of this is taken there need be no fear of semi-starvation. If a child thrives on milk, and does not seem to care for any other food, it should not be forced to a certain diet merely because it has arrived at a particular age.

The infant's meals must be given at regular hours, and no other food must be given between.

A mother who gives her baby sugar, lollipops, and sweetmeats, is not doing it a kindness. She is laying the foundation for loss of appetite, wind, colic, sickness

and diarrhoea. Sugar in small quantity in an infant's food is necessary, as to a certain extent it is fattening. It must be used, however, sparingly.

Lump sugar or sugar-of-milk is best for sweetening a baby's food if its bowels be regular or relaxed. If the bowels are costive moist sugar should be used in place of lump sugar, as it acts as a good and simple aperient, and is better than the dosing with opening medicines. A baby's bowels can as a rule be regulated by diet, which is far preferable to physicing with drugs.

CHAPTER VIII.

Weaning.

Time for Weaning. The usual time for weaning a baby is at about the ninth month. Some infants, however, can be suckled longer with advantage even up to the eleventh or twelfth month. If the child steadily grows, is strong and robust and gains flesh during suckling, and seems to thrive on the breast milk, the mother need be in no great hurry (as long as she herself keeps well and hearty) to wean it. It may even then be an advantage to continue suckling till the twelfth month. This is the limit, however. After twelve months if suckling is persevered in, the mother will find her health begin to fall off, her milk will deteriorate in quality, and will become more and more scanty in quantity, and the infant will receive less and less nourishment, and will begin to suffer, growing daily paler, thinner and more flabby. One of the great causes of rickets is prolonged nursing, on account of the milk containing less lime and salts. Weaning, therefore, must depend both upon the con-

dition of the mother's health, and the health, growth and development of the child.

The period of Suckling. The period of suckling is unquestionably generally one of the most healthy of a woman's life; but a woman feeling that her health is improved by nursing is sometimes tempted to prolong the period to an undue extent, even sixteen or eighteen months, and the results are usually most disastrous, not only to herself but to her infant. One of the early symptoms of failure in the general health of women suffering from too long suckling, is a dragging sensation in the back, when the child is in the act of sucking, and afterwards an exhausted feeling of sinking and emptiness at the pit of the stomach. The appetite generally fails, and is frequently lost altogether, there are thirst, dry tongue, quick feeble pulse, constipated bowels, headache, giddiness, weakness of sight, and tendency to hysteria. The skin is alternately hot and cold, there are profuse night sweats, and the woman usually suffers from "whites," with great debility and emaciation. If suckling is still persisted in, the memory fails, and there is extreme lowness of spirits, an irritable condition and depression. I have seen symptoms almost resembling consumption produced by prolonged suckling. Now, there is no good simply toning up the general health with tonics or other treatment, these are well enough in their way, but the quickest and most effectual remedy is to wean the baby. Treatment will not remove the exhaustion unless we remove the cause of the exhaustion. If a mother, therefore, finds her health is materially failing she had better wean her child before further mischief is done to herself and it.

Some mothers cannot suckle longer than three or four months without impairment of health. A mother who has lost a good deal of blood during her confinement, and has afterwards had perhaps only a spare and not very nourishing diet, soon becomes exhausted from suckling. Supposing in the early period of suckling the mother grows gradually weaker, loses her appetite..

and shows signs of nervous exhaustion without any very obvious cause, this condition may be put down to sucking, and weaning will be the best remedy.

As I have said the usual time for weaning a baby is when it is nine months old. Several circumstances on the part of the mother may render it proper that she should wean her infant before it has arrived at that age. Premature weaning is necessary when the mother is attacked with an acute disease threatening dangerous prostration such as typhoid or typhus fever, or which prevents the system from affording the proper quantity of food necessary for the support of the infant. If consumption be developed or is present, weaning is necessary, because the disease would tend rapidly to advance under the drain of sucking. Abscess of the breast or cracks of the nipples often prove a cause for premature weaning, on account of injury which may be done to the mother by the attempt of the child to suckle. Sometimes without evident cause the mother's supply of milk falls off, so as to render it insufficient to support the infant, and in such cases weaning is imperative.

Pregnancy and Suckling. A mother may become pregnant whilst suckling, or menstruation may come on, both these conditions are conclusive reasons for weaning. If pregnancy occurs at the time of suckling not only does the mother's milk more or less deteriorate, but she becomes peculiarly liable to miscarriage. Dr. T. J. Graham says:—"I believe the closest investigation of this subject proves that when pregnancy takes place during suckling, and suckling is continued, miscarriage is very apt to follow. It does so, because the womb does not then receive a full and sufficient supply of food to nourish the foetus."

Conception and Suckling. Some mothers continue sucking for many months too long, from the mistaken notion that sucking is a preventive of conception. It is nothing of the sort, and injury is done to both mother and child by this practice.

Menstruation and Suckling. Babies who suckle whilst the mothers are menstruating do not usually thrive well, and often suffer from obstinate constipation.

Milk secreted during menstruation becomes deteriorated, and is less fit for the nourishment of the infant.

Child's Health and Weaning. The state of the child's health is a material point to be considered at the time it may be proposed to wean it, for if it should be reduced by previous illness, or be now labouring under some actual disease, it would be highly injudicious to subject it to deprivation of the breast. When not in health, supposing that the mother's milk agrees with it, no nourishment at the moment can be so proper as that; none so certainly and freely conveyed; and therefore depriving it of the breast under such circumstances of indisposition, has always been attended with bad consequences, and it should consequently never be attempted at that time, as a matter of choice.

Weaning and Progress of Teething. The propriety of regulating weaning by the progress of teething should be considered. This is a good guide. If teething is delayed it is most probably the result of a rickety condition, and one of the chief causes of rickets is insufficient food, and the inference is, the breast milk is deteriorating, and consequently is not supplying sufficient nutriment to the child's system to enable it to cut its teeth at the proper time. This being the case other more nourishing food is required, and the child should be at once weaned.

Gradual Weaning. The baby should be weaned gradually. The mother should by degrees give it less and less of the breast, and more and more of artificial food; at length she should only suckle it at nights. When the baby has cut its front teeth it should have a couple of meals a day of bread and milk or of Mellin's Food or Malted Food, as well as the breast. The lightly boiled

yolk of an egg may also be given. A little minced meat once a day, after the child is eighteen months old, is a useful addition to its diet. But nothing during the first two or three years comes up to good milk and bread, cocoa, Mellin's Food and Malted Food, and a little well-cooked oatmeal* or whole-meal porridge.

It is a sin, before a child is three years old, to feed it like its parents. Such indulgence on the part of parents is foolish and cruel. Most of the diseases of the stomach, bowels and nerves in young children, arise from letting them live like grown-up people. Again I say, stick to good milk and milk foods, as these on the whole are most suitable for children.

Sudden Weaning. In some cases a baby has to be weaned suddenly. Now, if the child is in good health the sudden withdrawal of the breast milk is rarely attended with suffering. I have seldom noticed any ill effects from the sudden transition from breast milk to artificial food, when such food was properly chosen. All that is required is a little firmness on the part of the mother or nurse, and the child soon settles down to the new conditions, although it may be inclined to rebel for a few days.

In weaning a child suddenly it is best for two or three weeks, or longer, to confine it exclusively to Mellin's Food (quantity according to age) or to sterilized milk.

CHAPTER IX.

Teething.

A baby begins to cut its teeth at about the seventh month and usually completes the process in from two to two and a half years. A baby cuts twenty teeth in all—

* Stephensen's Union Jack Rolled Oats make an excellent—and easily digested Porridge.

ten in each jaw. These teeth are called the *milk* teeth. They are only temporary giving place later to the permanent teeth.

Babies born with Teeth. In some rare instances babies are born with teeth, but they usually drop out. Again cases are on record where teething did not commence till the second or third year.

Names of Teeth. The first set of teeth consists of four *incisor* or *cutting* teeth in each jaw, two *canine*, *dog* or *eye* teeth, and four *molars* or *grinding* teeth; that is, in both jaws there are eight *incisor* or *cutters*, four *dog* or *eye* teeth, and eight *molars* or *grinders*.

First Teeth. About the sixth or seventh month, the cutting of the first teeth generally commences, and it ends between the second and third years.

The milk teeth are usually cut in pairs or groups, with a period of rest between each effort.

The following table shows the usual period at which the milk teeth show themselves above the gums, with the periods of rest between each appearance:—

TEMPORARY OR MILK TEETH.

	MONTHS.	PAUSE.
Lower front incisors or cutting teeth...	7	3 to 9 wks.
Upper front incisors and then upper lateral incisors ..	8 to 10	6 to 12 wks.
Lower lateral incisors ..	12 to 15	3 to 6 mths.
Front molars or grinders, lower jaw first then upper jaw ..	12 to 15	3 to 6 mths.
Lower dog teeth then upper dog teeth ..	18 to 24	2 to 3 mths.
Second molars or grinder, lower jaw first then upper jaw ..	20 to 30	

The pauses which take place between the cutting of the various teeth are of great service to the infant,

as they give it an opportunity to rest between each effort, and so to recruit its strength for the next trial.

Children seldom acquire their teeth without some degree of local irritation and constitutional derangement.

The effects of Teething. Even in the mildest cases the gums are unusually red, enlarged, and painful, and an unhealthy action of the liver is present. Heat in the mouth of the child is one of the first signs of teething, and the delicate and sensitive nipple of the mother becomes immediately aware of it. The heat induces thirst, and causes the child to demand the breast more frequently than before. The uneasiness accompanying this irritation of the gums leads the child to rub its mouth with its fingers, and to press upon every substance offered to its gums, however hard that substance may be. Slavering, or a considerable increase of saliva, accompanies this condition of the gums, and seems intended to answer at least three distinct purposes; first, to decrease the existing inflammation of the gums, and to moderate the thirst consequent upon this local inflammation, the child being observed to demand the breast less frequently after this takes place; secondly, to supply an additional quantity of saliva with a view to assist digestion; hence children who slaver much are more rarely affected with bowel complaints than those who do not run at the mouth; thirdly, the slavering reduces the vigour of the circulation, which otherwise is likely to be aroused into excessive action by the irritation of teething.

Although often difficult and painful, yet teething is not in itself, strictly speaking, a disease; but the excitement which it produces is favourable to the development of such complaints as this time of life disposes to. This it is which renders it the most critical period of childhood; and the supervention of any acute disease such as measles, etc., during its progress, is found, from the exalted sensibility of the whole system, to be attended with more than ordinary danger. If any chronic affection, such as scrofula, swelling of the glands, consumption,

etc., has been previously developed, it is almost sure now to be aggravated, and if such chronic maladies have not been previously discovered, they are often called into action under the general irritation of cutting the teeth. Skin eruptions generally attend, and are sometimes very severe and difficult to cure.

As a rule a baby cuts its teeth more easily in winter than in the hot summer weather. Bottle-fed babies are slower in cutting their teeth than those who are suckled. Puny feeble babies often cut their teeth with less trouble and disturbance than the more robust looking ones. Girls generally teeth easier and earlier than boys.

Lancing the Gums. When the gums are hot, swollen and tender, and the infant is feverish or irritable, and shows signs of being out of order, it may be necessary to lance the gums, a procedure which often gives considerable relief. Some people think that lancing hardens the gums. This is not so. Lancing has a quite contrary effect. The object of the lancing is to enable the tooth to easily come to the surface of the gum. The gum acts as a kind of tense tissue or membrane, binding down the tooth and keeping it from readily cutting through. When the gum is lanced the tension is relieved and way is made for the imprisoned tooth to reach the surface without loss of time, irritation and suffering. When the teeth cause trouble during the period of cutting a timely lancing may save the infant from a severe attack of convulsions. In severe cases a second lancing may be required. Of course the gums must not be lanced unless they are hot and swollen, and there is no good derived from lancing if the tooth is deep down in the gums and not near the surface. I have seen lancing do harm when it was prematurely performed, and yet at the proper time it is often magical in its effects, giving immediate relief.

Now, as a rule, when any kind of operation has to be performed it is better to let a trained medical man do it. Even in a minor operation like the lancing of a baby's gums, unless the symptoms are urgent, it is far the best

plan to leave it to the doctor. Still, however, supposing the infant is threatened with convulsions and a medical man cannot be easily procured, the mother or nurse should know, how in emergency, to lance the gums herself. The operation is not difficult, takes up but a short time, and gives little pain. If the mother performs the operation she must have the assistance of a steady nurse or female friend to hold the child.

The infant must be placed firmly upon its back on the nurse's lap, and she must hold its head tightly between her knees, at the same time securing its hands so that it may not interfere with the operation.

In lancing *the upper gum* the mother must go to the head of the child, so that she may look over into its mouth, and she should steady the gum with the first finger of the left hand; then holding the gum-lancet in her right hand, in a similar manner as she would a table-knife at dinner, she must cut firmly along the swollen gum right down to the tooth, until she can feel the edge of the gum-lancet grate on the tooth. The cut should be made along the ridge of the gum to the length occupied by the expected tooth.

In lancing *the lower gum* the mother must place herself at the side of the child, and should support the outside of the jaw with the fingers of the left hand, and holding the lancet in the right hand, as before, she makes the cut along the ridge of the gum in the manner just described.

It may be well to state that when the *upper gum* is lanced the cut should always be made towards the *outer edge* of the expected tooth. If it be the *lower gum*, the cut should be made towards the *inner edge* of the tooth. The reason for this is that when the teeth are all cut the upper row overlaps the lower set of teeth.

Care must be taken that the gum-lancet is perfectly clean and bright before use, and after the operation is performed all blood must be cleaned from the lancet before it is put away.

**Fits or
Convulsions
during Teething.**

If during teething fits or convulsions come on, a doctor must be sent for immediately. As, however, convulsions generally come on suddenly, the mother must not lose

her self-control but must sponge the baby's head with cold water and dash it freely upon its face, and as soon as she can prepare a hot bath she must place the baby in it keeping it there for about five minutes. Sufficient mustard flour must be mixed with the hot water so as to thoroughly stimulate the skin. The temperature of the water should be 105 degrees Fahrenheit as measured with a Rauschke's Nursery Thermometer (hot bath scale). Five or six minutes in such a bath usually restores the child to consciousness and checks the twitching of the muscles. On coming out of the bath the baby must be wiped dry with warm towels, and then placed in a warm blanket. Cold water must be applied to the head, and the gums should be lanced. It is necessary to act well upon the bowels, and an enema should be administered. This enema should consist of one table-spoonful of common salt, one table-spoonful of olive oil, and a tea-cupful of warm oatmeal gruel, well mixed. As soon as the child can swallow, a teaspoonful of Allen & Hanburys' Tasteless Castor Oil should be given, or a tea-spoonful of their Palatable Aperient, both useful preparations to keep in the house.

When a child is in convulsions no matter what the cause, it is perfectly unconscious and feels no pain. As soon as it recovers consciousness the convulsions cease.

The slavering of children in general denotes that they are about to cut teeth, but the rule is not infallible. Sometimes a baby slavers largely at four months of age, and continues to do so till it cuts its first teeth. This slavering is sympathetic and denotes the growth and hardening of the tooth, prior to its being about to pierce the gum. When the investing membrane of the tooth is put upon the stretch by the growth and hardening of this little body, it, in some cases, assumes so unusual a degree of sensibility and irritability, as to give rise to

several of the symptoms of teething, before the gums are decidedly acted upon by the rise of the tooth ; hence the slavering and the frequent thrusting of the fingers into the mouth. These symptoms frequently occasion anxiety in parents, especially with the first child, and, therefore, it sometimes leads to premature and unnecessary lancing of the gums. It must be remembered, that at this early period of four months, the lancet would hardly be able to reach the crown of the tooth, and the incision would be at least, premature, and would be quite useless, and very probably injurious. At this stage the mother should not think of lancing, unless strongly advised by the medical attendant.

As a teething child in most cases slavers more or less constantly, the saliva wets the chest and causes it to catch cold. To guard against the latter contingency the mother must have several *flannel* dribbling bibs, which should be changed as often as they become wet. If the child slavers very much, instead of using flannel bibs, it will be best to have some of oiled silk.

Teething a Critical Period. Teething makes a child more subject to disease. In fact, the period of teething is one of the most critical of a child's life. It is a period which requires constant watchfulness on the part of the mother. As a rule, if a child can be got safely through its teething, it thrives well afterwards.

Much of the difficulty attendant upon painful teething may be anticipated and prevented by giving attention to the use of pure air, warm bathing, exercise, proper food, and keeping the bowels free. If these means are properly and judiciously employed, the system at large will be much less disposed to fever and inflammation, even though the gums be considerably swollen and red.

Cold water whilst Teething. Pain and irritation from swollen and inflamed gums may be considerably relieved by putting into the child's mouth a table-spoonful of cold water frequently through the day, and the child

should have a hard crust of stale bread, dipped frequently in very cold water, to bite at. An eye should be kept on the baby whilst it is biting at its crust, for fear of some portion of the crust becoming detached and lodging in the throat. Cold water used in the way I have mentioned will be found in the highest degree cooling and soothing to the infant. Nothing, in fact, is more cooling, and more speedily and decidedly allays the irritation of the gums, both generally and locally, than cold water and cool bracing air.

Nothing is more important **Pure Air and Change of Air.** during the time of teething than pure air. If a mother who lives in a crowded town can in any way manage it she should take her baby into the pure air of the country. It is wonderful what change of air to the country will often do in relieving a child who is suffering from painful teething. A very large number of children die in London and other large towns from teething, whereas in country districts the mortality from this cause is but trifling. If the means of the mother are such that she cannot take her child into the country she should take it out daily for several hours, weather permitting, into the parks or open spaces of the town, because the more fresh air the child can get and the better it will pass through its teething period. Of course, no child, while teething, should be really exposed to cold, or damp, or to draughts; but these sources of danger being guarded against by suitable clothing, as elsewhere described, I am persuaded the more children are out in the open air, and preferably that of the country, the more easily and safely will they pass through this important period of their early life.

As soon as the first symptoms of **Warm Baths.** teething commence, a warm bath, at about 95 degrees, should be used as a part of the preparatory or preservative treatment. Such a bath has great power in allaying irritation and excitement, it also promotes sleep, and encourages the free action of the skin. I should advise this bath at the child's usual bed hour. It should be put into the bath

for ten or fifteen minutes, and on coming out be well dried with a warm towel, and then the whole body freely rubbed with the warm hand.

Diet during teething should depend

Diet during Teething. upon the age of the child ; on the whole the simpler and the better.

Such foods as sterilized milk and bread,

Mellin's Food, Allen & Hanbury's Malted Food, Benger's Food, Frame Food and Union Jack Rolled Oats are all suitable. A little ripe fruit, such as strawberries or raspberries, or the juice of grapes and oranges, or a roasted apple, may be given and will be particularly useful, especially if the child is constipated. All stone fruit such as plums and cherries, also raw apples and pears, must be strictly avoided. These are apt to bring on griping, diarrhoea, convulsions and worms. The child should on no account be allowed to eat or drink anything which has a tendency to stimulate the system.

Bowels during Teething. The bowels are often a little relaxed during teething. It is well not to interfere. If, however, the relaxation should approach a condition of diarrhoea,

four grains of Gregory's Powder or of chalk powder in a little water may be occasionally administered. On the whole it is better to keep the bowels in a relaxed condition during teething, especially if there is a feverish condition of system. Should the bowels become constipated a teaspoonful of "Tasteless" Castor Oil or a little of Dinneford's Fluid Magnesia, or a little manna or rhubarb may be given with advantage. A liberal use of treacle or molasses may be given, when there is a tendency to constipation. If the child be confined to the breast, it will drink freely of this substance when mixed with water. If it be fed artificially, the milk may be sweetened with it, or if the child is old enough, it may be spread on bread. Brown or moist sugar, as has been previously mentioned, is a capital aperient for a young child.

When a child is of full habit it is much more prone to trouble during teething than a sparer child. The gums are very apt to become much swollen and inflamed,

and this is always accompanied with general fever, flushed face, and restlessness. Here the gums should be freely lanced so as to relieve the painful tension, and the bowels and skin must be acted upon. The following is a useful aperient :—

Take of Rhubarb Powder..... 10 grains.
 „ Scammony Powder..... 10 grains.
 „ Sulphate of Potash..... 10 grains.

mix well together, and add 5 grains of aromatic powder. Divide into six powders, and give one, in a little sweetened water, every second hour until the bowels are relieved. The above dose is for a child of two years old or upwards, younger children should have a less quantity.

If there is much fever a grain or two of James's Powder might be given to act on the skin. A warm bath of ninety-five degrees is very proper, as already advised.

Narcotics and Sedatives. Never, on any account, however restless, or irritable the child is, give narcotics or sedatives; many a child has been killed by such.

I have even known simple syrup of poppies in very small doses produce dangerous symptoms in a young child. Many of the soothing syrups to rub the gums contain opium, and these should be strictly discarded. There is no doubt that very considerable relief may be given in all cases of painful teething by friction of the gums with the finger, with a soothing syrup containing a little Nitrate of Potash, which will do no harm if some of it is swallowed. Yewdall's Soothing Syrup for rubbing on the gums is a safe preparation. (E. Yewdall, Wade Lane, Leeds.)

Slight Fever. If the fever and the general disturbance are slight, and the gums not very inflamed, I should not advise lancing. The gums ought not to be lanced unless the teeth are near the surface, and unless there is a good deal of swelling, heat, and redness of the gums.

In cases where fever runs high, and

High Fever. the gums are very inflamed, free lancing is necessary. It is always well where there is much constitutional disturbance to call in a medical man, as delay in treatment may mean mischief to the head, chest, stomach or bowels.

In very severe cases of difficult and

Severe cases of Fever. painful teething, the brain and nervous system may become affected. Such affection varies from slight determination of blood to those parts up to acute inflammation. The pain in the gums keeps the nervous system in a state of constant excitement, which is favourable to the development of fits or convulsions. Should convulsions occur the most prompt measures must be taken, as already described.

During teething very violent purging

Purgung and Diarrhoea. occasionally comes on. This must never be stopped suddenly. "A purging is so beneficial when children cut their teeth with much fever, that it is surprising how considerable a looseness they will sustain, and how very bad the stools will be for many weeks together, and a child struggle through; though at another time an equal degree of purging, with such bad stools, and constant fever, would infallibly prove fatal."—*Dr. Graham.*

The purging is generally a useful act of nature to work something off, that unless there is great debility produced by it, this *purgung of teething* is best let alone or even assisted by an occasional dose of "Tasteless" Castor Oil (one tea-spoonful). I do not think a mother should attempt to stop the diarrhoea of teething without medical advice.

If a baby is suckling, weaning it, and putting it on artificial food, will often rectify the diarrhoea. So also will change from one kind of Infant Food to another.

The diarrhoea may, however, be kept in bounds by the following prescription:—

Take of Rhubarb Powder.....	15 grains.
„ Calcined Magnesia	60 grains.
„ Fennel Water.....	6 drams.
„ Dill Water.....	6 drams.
„ Syrup of Roses	$\frac{1}{2}$ -ounce.
„ Aromatic spirits of Ammonia	20 drops.

Mix, and give one or two tea-spoonfuls, twice or thrice a day, to children of a year or two old. Rather less for younger children.

Effect of Teething on the Lungs, &c. The irritation from teething sometimes falls upon the lungs. Alarming symptoms may occur, such as pain in the chest, cough, and great difficulty in breathing, with loss of appetite, high continual fever, and even all appearances of rapid decline. The true nature of this condition of things is often overlooked, and the effects treated rather than the real cause. I have seen cases of inflammation of the lungs arise during teething, where the child's death was expected from day to day, and yet when rationally treated, every threatening symptom subsided in two or three weeks.

In these lung troubles from teething, keeping the bowels freely open, lancing the gums, and giving warm baths is usually all that is required to restore the little patient to health.

Tooth Cough. Many children have a slight cough during teething—"tooth cough." This need not trouble the mother much. She should not attempt to check it, for the cough is beneficial to the child in enabling it to expel phlegm from the air-tubes. If the cough was suddenly checked inflammation or bronchitis might occur. How dangerous, therefore, are the various "cough mixtures" for children recklessly administered in entire ignorance of what causes cough and its nature. If, however, the cough should be very troublesome and seem to distress the

child, pending medical advice, a little thin gum water (a teaspoonful) might be given occasionally. This should be made from pure Gum Arabic. Never give syrup of poppies or paragoric.

Ulceration of the Gums. Ulceration of the gums sometimes appears during teething. The cure is simple:—Keeping the bowels open and the application of a little borax and honey to the gums.

Swelling of the Hands and Feet. Some infants who cut their teeth painfully, exhibit a swelling of the tops of the hands and feet. This generally goes away when the teeth appear. If the swelling is considerable it will in most cases be found that the bowels are constipated. Opening the bowels, and giving, once a day, five to ten drops of Tincture of Squills is the best treatment.

Swelling of the Neck. Now and then during teething one or more of the glands of the neck swell. It is very seldom that matter forms in these glands—unless the child is scrofulous. An ointment made of one dram of Ichthyol and three drams of pure lard, gently rubbed in, will usually take the swelling down.

Flatulent Colic. Some children suffer very much from a kind of flatulent colic during teething. The belly swells up rapidly, and becomes very tender to the touch, the bowels are constipated, and the child seems in much distress, the muscles of the face and limbs being occasionally spasmodically contracted. Free purging is necessary. Five or six drops of sal volatile should be given in a little water as soon as the bowels are moved. Friction over the body and spine (round and round, not up and down) is useful.

Eruptions of the Skin. A teething child has occasionally a kind of wet skin eruption or breaking out (eczema), more especially behind the ears. This must not be suddenly checked. It may be looked upon as a kind of safety-

valve to ward off inflammatory symptoms. Care in diet and a little mild aperient (Tasteless Castor Oil) are usually quite sufficient to cure. If there is much irritation it should be bathed with a little rose water or warm milk and water. I have found Yewdall's "Nurse's Lotion" useful in such cases, also the Ichthyl Ointment mentioned above.

Gum-sticks and Rings. It is well to let a teething child have some substance to bite at. The best is an india-rubber ring, which is rather more yielding than coral or ivory. A hard crust of bread, occasionally dipped in cold water, also forms an admirable gum-stick (mind baby does not choke by detaching a piece). The pressure of the ring or gum-stick excites absorption of the gum, and encourages the teeth to come through more easily and quickly. Sweet substances ought never to be given to the child to suck.

Sucking the Thumb. Never hinder a teething child from sucking its thumb. The thumb is the best gum-stick and the safest, for the baby cannot choke itself with it. Sucking the thumb gives more ease and comfort to the baby than all the rings and gum-sticks in the world.

If, however, the child persists in the thumb-sucking after it has got its first set of teeth, it can be broken of the habit by making a paste of aloes and water, and smearing a little upon its thumb. The taste will so disgust the child, that after a few applications of the paste, the habit will be broken.

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CHAPTER X.

Vaccination.

If a mother has made up her mind that it is necessary for her child to be vaccinated, or is forced by hostile circumstances to expose her little one to that operation, I should strongly advise her to see that the following rules be attended to:—

1.—The infant must on no account be vaccinated too early. The best time is between the third and fourth month.

2.—The infant must not be vaccinated unless it is in a condition of perfect health.

3.—Pure calf-lymph should *always* be used. A mother must *always* insist upon having her child vaccinated with this lymph and no other, she can demand this as a right. Humanized lymph, that is, lymph taken from another child is *always* a source of danger, and the more so, the more human beings it has passed through. It is a well-known fact and it cannot be denied, that obstinate and alarming skin and other diseases have frequently been communicated to children, by vaccination with lymph from an unhealthy child. Calf-lymph can now be obtained from reliable sources, and every mother should see that her doctor obtains pure calf-lymph, and calf-lymph only, for the vaccination of her child.

4.—The lancet with which the operation is performed must be *perfectly* clean, having a fine point.

5.—The best place for the operation is about one-third down the upper arm, and rather to its outer side. One arm only must be selected.

6.—Two punctures are quite sufficient. The placing of five, six, or more punctures as is recommended and

even practised by some doctors, is useless and absolutely barbarous.

7.—Care must be taken after vaccination that the arm be not rubbed. The rubbing of the vesicles is apt to make a sore arm. The sleeve of the vaccinated arm should be large and soft. It should not be tied up, as that tends to make the sleeve hard, and it is much more likely to rub against the vesicles.

8.—Never take a child to a public vaccination Institution to be vaccinated. Have it vaccinated at home by your own doctor, with clean lancet and calf-lymph.

Signs of successful Vaccination.

In order that the mother may know whether or not the vaccination has taken, it may be well to give the principal marks

of the genuine cow-pox. On the second day, if the finger is passed over the site of the punctures a little elevation may be felt; on the third and fourth day there is a small red pimple to be seen, and this pimple is surrounded by slight redness; on the fifth day a small vesicle becomes apparent, this is round, is hollow in the centre with a raised edge; it increases in size till the eighth day, when it is filled with a clear lymph of a pearl or slightly yellow colour; on the ninth day the vesicle is fully developed, and it is then that the child usually suffers constitutionally. At the tenth or eleventh day, the inflammation round the vesicle, that began on the eighth day to widen, has become vividly red. After the eleventh day the vesicle begins to decline, it turns brown in the centre, and by degrees turns into a dark mahogany scab, which falls off about the twenty-third day, leaving a slight but well marked depression in the skin, a kind of scar which lasts for life. Such is the progress of a true vaccine vesicle.

Vaccination generally makes the child feel more or less poorly. From the fifth to the ninth or tenth day, or so, there is usually slight feverishness, and the child is cross and irritable, it is restless at night, and sometimes is slightly purged. About the ninth or tenth day the

arm becomes very red, hot and swollen for an inch or more round the vesicles, but if the child's constitution is good this inflammation subsides in two or three days.

Inflamed Arm. If the arm be much inflamed after vaccination and cause the child some distress, a little cold cream should be smeared by means of a camel's hair brush over the inflamed part, or it should be gently dabbed with Yewdall's Nurse's Lotion. If inflammatory action should, however, run very high, a piece of thin rag, dipped in cold water, laid over the part, and frequently renewed, is the best application.

Scabs. The scabs must never be picked off, they must always be allowed to fall off of themselves. I have occasionally seen nasty irritable sores produced by picking off the scabs, sores, too, which were a long time in healing.

The Bowels. The child's bowels should be attended to during the vaccination period, and this, particularly about the ninth day. The best aperient is a small dose of Allen & Hanburys' "Tasteless" Castor Oil, or a tea-spoonful of their "Palatable Aperient." If the child's stomach is irritable and their is nausea or sickness, in place of the castor oil, give a little Dinneford's Fluid Magnesia.

Evils of Vaccination. Now, should a mother be compelled to have her child vaccinated ? I answer unhesitatingly NO, not if she is conscientiously opposed to this doubtful method of preventing small-pox. That it is doubtful is proved by the fact, that, in all the years it has been enforced, it has not succeeded in completely eradicating the small-pox. I will not deny that pure vaccine lymph has under certain conditions a kind of fleeting power to lessen in times of small-pox epidemic the virulence of the disease, or perhaps to give a kind of temporary immunity to those inoculated with it, but beyond this I am not prepared to go. Like other animal lymphs or serums, which of late years have been largely advocated to stay the ravages of various widely spread diseases, by inoculation, and which

in so many cases have failed, I may place vaccine lymph in the same category, and say, though not entirely useless as a preventive, at particular times and in well-selected cases, yet it has in many ways disappointed even its own advocates, and has been the means of introducing into the system many loathsome and deadly diseases.

Syphilis, various sorts of skin diseases, scrofula, consumption, and even tetanus or lock-jaw have been grafted into the child's system by vaccination, and as long as this is the case, and such every day dangers have to be encountered in order to guard against a possible attack of a disease which may never come, and which if it does come can be kept at bay by other means, I say a mother is justified, if she has conscientious scruples against vaccination, in refusing to have her child vaccinated. I feel strongly on this point, because, in a large consulting practice extending over many years, I have encountered numerous cases of disease (especially of the skin) which I could trace to no other cause than vaccination. Even if the mother elects to have her child vaccinated with calf-lymph instead of humanized lymph, danger still lurks in this, and obscure complaints may be traced to calf-lymph vaccination.

The Royal Commission on vaccination which was appointed in 1889, and which only brought its labours to a close in 1896, has lately issued its "Final Report." The unanimous recommendations of this Commission in an interim Report, dated April 21st, 1892, which "had been carefully considered," to the effect that repeated penalties in respect of the non-vaccination of the same child should cease altogether, "and persons imprisoned under the Vaccination Acts should no longer be subjected to the same treatment as criminals" have now been confirmed. The Commissioners plainly realized that it was useless if not even unjust, to try by means of fines and imprisonment, to crush the convictions of those who were conscientiously opposed to vaccination, and they recommended that those so opposed should be allowed to make a statutory declaration of their objections, and not be prosecuted. I hold with Mr. John Bright that

"if honest parents object to have their children vaccinated I would not compel them."

Speaking on the Report, the "Daily Chronicle" of August 24th, 1896, says, "Vaccination, if it cannot be warranted to be good, cannot, apparently, be stopped from doing the gravest mischief. The Report goes fully into this, and shows that even vaccination with calf-lymph—the course recommended by the majority of the Commissioners—is liable to do serious harm. 'We are,' they say, 'deeply impressed with the sad cases of severe illness, and suffering, and death which the investigations of medical men, appointed by the Commission, after rigid scrutiny, failed to disconnect from vaccination.' Again "The Pall Mall" of August 24th, 1896, says, "We have visited vaccination centres in London and seen things which were a disgrace to a nation claiming to have initiated the aseptic treatment. So long as there remains a chance of dispensing tetanus (lock-jaw) along with immunity against small-pox, so long will there be prejudice and out-cry against vaccination."*

I think in face of all this a mother is perfectly justified to say whether or not she will let her little one be vaccinated.

Sanitation and Small-pox. Cleanliness, fresh air, good food for all, perfect drainage, pure water, and sanitary dwellings will strike a surer and more deadly blow at small-pox than vaccination will do, however rigidly and tyrannically enforced. In future ages when men fully understand and conform to all the laws of health and life, and when slums have disappeared, and to the humblest is granted as a right air, space, healthy dwelling, sufficient good food, freedom from exhausting toil, and all those things which go to make perfect life—then they will wonder how their ancestors could be so blind as to substitute any form of inoculation to ward off disease, for perfect sanitary living.

* "The Final Report of the Royal Commission, appointed to inquire into the Subject of Vaccination," may be read with profit by any parent interested in the question. It is published by Eyre & Spottiswoode at the price of 1/10.

Small-pox Specific. Supposing small-pox is about, the mother should give to her child the following medicine. It can be dispensed by any chemist:—

Take Sulphide of Calcium...one-sixth of a grain
,, Sugar of Milk.....2 grains.

Mix, and make a powder. The powder should be given five times a day, in a tea-spoonful of cold water. Sulphide of Calcium, in small doses, given frequently till the blood is saturated with it, is a specific against attacks of small-pox. I should rely on it more than on vaccination.

CHAPTER XI.

Ailments of Infancy.

Every mother ought to know how to treat each of the common complaints to which infants are subject. I intend to give some homely directions for the treatment of the same, and to indicate the proper remedies to use.*

Opening in Head. Many mothers frighten themselves, needlessly, concerning the opening in the baby's head through which they can feel and sometimes see the pulsations of the brain. Now, this opening, to which I refer, is called the *anterior fontanelle*, and it remains open till the first or second year. A *fontanelle* is a space between the bones of the scalp, which space in infancy is covered with membrane instead of bone, as in the adult.

* Miss Mena Drew, late of Guy's Hospital, has published two useful little books on home nursing, and the simple treatment of disease, which I should recommend every mother to read:—"Hints on Nursing," and "Monthly Nursing." Either of these may be obtained post free for sevenpence, from the Publisher, R. Forder, 28, Stonecutter Street, London, E.C.

Lengthening of Head. When a baby is finally ushered into the world at the termination of a prolonged and difficult labour, its head may be very much elongated, the measurement from the chin to the back of the head sometimes exceeding six inches. Although the head looks unshapely there is not the slightest ground for alarm, as it will in one or two days regain its natural shape, and that too without any interference.

Swelling of Scalp. A baby is often born with a swelling upon the scalp. Such is caused by pressure sustained by the part in labour. This swelling will soon subside if no compression is used. If the swelling is tender or red, or is a long time in going away it should be bathed frequently with the following lotion :—

Take of Hazaline.....2 ounces
" Water6 ounces

Mix. The swelling to be bathed with this for five minutes at a time, four or five times daily.

Disfigured Face. A baby born after a hard lingering labour sometimes has its face very much disfigured, distorted, and blackened. It will regain its natural appearance in a few days without any treatment.

Navel Troubles. In Chapter 1. I have spoken of bleeding from the navel string, and of other navel troubles.

Groin Rupture. An infant may be born with what is called a *groin* or *inguinal rupture*. This can be cured if it is treated properly soon after birth. If it is neglected it is apt to get worse and cause a deal of trouble in after life; in fact if not cured in early childhood it is rarely cured in the adult without operation more or less severe, and a truss would require to be perpetually worn.

Truss. As soon as the rupture is detected in the groin of the infant it would be advisable to call in a medical man who would advise as to

the best form of truss. Now, a properly adjusted truss worn during infancy, will by the pressure and support it gives, cause the opening in the groin, through which the bowel protrudes, to close up more or less, completely, so that in later life the truss may be altogether dispensed with. It is this protrusion of a portion of the bowel through the opening in the groin which causes groin-rupture. The truss must be properly made by a skilful surgical instrument maker, under the medical man's direction. It must be made to the exact curve and shape of the lower part of the baby's belly, and must fit it *exactly*. If carefully and skilfully made an under-strap is not necessary, for it will keep in position without. Under-straps to infant trusses are most objectionable, as they are constantly getting wet and soiled, and by friction set up irritation, besides giving the infant cold. Before the truss is applied the medical man will carefully return the protruding bowel (the rupture) into the belly, and will then see that the truss is accurately fitted. If a truss does not fit well there is sure to be chafing of the infant's tender skin, and great care must be taken to prevent this. When the truss is moved for washing, the child must always be on its back and remain so till the truss is re-applied. The skin of the groin must be well dusted with Matthews's Fuller's Earth before putting on the truss.

When labour has been long and difficult, the baby's skin for the first few days of its life may be very congested and red, this redness gradually changing into a brownish yellow tint. In ten or twelve days this discolouration of the skin usually disappears. This yellow staining of the skin is not true jaundice although it resembles it, but it can be distinguished from that disease by the fact that the whites of the eyes are not stained yellow, neither is there any alteration in colour of the motions or urine. Real jaundice in the infant is a very serious complaint, and requires watchful medical attention and skilful treatment.

Swelling of Breasts. The breasts of an infant may swell and become hard and painful, a day or two after birth, and on squeezing them a kind of thin fluid resembling milk may ooze from the nipples. This swelling of the breasts may occur in both *male* and *female* infants. On no account must the breasts be squeezed to get rid of the fluid, as it may lead to inflammation. The swelling generally goes down in course of time if let alone, but if the parts are very swollen, hard, and red, and very tender to the touch, a little spermaceti ointment should be smeared over them, or a hot-water dressing should be constantly applied.

Inflammation of the Eyes. This inflammation of newly-born children must *never* be neglected. Many a child has lost the sight of either one or both eyes, from want of proper attention and skilled medical advice.

The inflammation as a rule comes on about three days after birth. Usually both eyes are affected. It will be noticed at first that the baby on waking from sleep has its eyelids tightly glued together; there is redness of the lids particularly at the edges and corners, and if the lower lid be turned slightly down there will be some white matter seen on the inside. The baby does not seem to care to open the eyes, as light gives pain. As time progresses the lids become much swollen and very red outside, and a large quantity of matter pours out from between the lids.

Now, treatment must be very prompt. This inflammation is always of a serious nature, and must not be looked upon as trivial, and treatment delayed till mischief is done to the sight. The first thing to do is to send for the doctor, this is essential as the medicinal treatment varies according to the condition. Until he comes apply to the eyes pieces of lint or soft rag constantly wetted with the following lotion :—

Perchloride of Mercury.....	1 grain.
Water.....	1 pint.

Remember, this lotion is poisonous. The discharge should be constantly removed so as to keep the eye free. It must be done very gently by separating the lids and wiping away the secretion with bits of moistened lint. This lint must be burnt as soon as used, as the matter is contagious, and the nurse must be very careful that she gets none of the matter into her own eyes. The baby must be kept in a darkened room till all inflammation has entirely disappeared.

Tongue-Tie. This consists of the bridle beneath the tongue being either too short, or being attached so near to the tip of the tongue as to interfere with the baby properly sucking. In order to ascertain if tongue-tie exists or not, carefully watch the baby and see if it can protrude the tip of the tongue beyond its lips. If it can, it is not tongue-tied, and nothing should be done. If, however, it is unable to do this a slight operation is necessary. This consists in cutting "the bridle" close up to the tongue. If cut lower there may be some serious bleeding. It is best to let the doctor perform this little operation, which he will do easily with a special pair of blunt-pointed scissors.

Hare-lip. If a baby is born with a hare-lip it is best to have it operated upon before teething commences. The operation should be got well over before the end of the sixth month. If the hare-lip interferes with sucking, operative measures should be undertaken as early as possible. It is a pity to allow a child to grow up with such a well-marked deformity, when a skilful operation in very early life will remove almost every trace of it.

Cleft-palate. An operation for this defect should not be undertaken before the end of the second year. Sometimes cleft-palate and hare-lip occur both together, and the infant so affected is unable to suck either from the breast or the bottle, and has to be fed from a spoon. Now, as cleft-palate is in reality a split condition of the roof of the mouth, it is possible to succeed in feeding a child so affected from a bottle, by having a false palate stitched

to an ordinary bottle tip. This false palate is made out of a bit of thin india-rubber cut to the size and shape of the roof of the mouth, and attached to the bottle tip by a few firm stitches. In feeding the child the nurse must insert the tip, with false palate, into the mouth in such a way that the false roof of india-rubber comes uppermost, and so covers over the portion of the palate which is split or imperfect.

Retention of Urine and Motions. A baby often does not pass water for many hours, or even for several days after birth. This may be the result of some mal-

forniation, and it is a nurse's duty if she finds that her infant charge does not pass water within twenty-four hours after birth to call the doctor's attention to the matter. It is always well, however, if the doctor is not at hand to try the effects of immersion in a warm bath (98 degrees) for a few minutes, or in place of this to wring a piece of flannel out of hot water (105 degrees) and lay it on the lower portion of the abdomen—that is, over the bladder, for it often happens that the cause of the retention of the urine is nothing but a little temporary congestion of the kidneys which warmth to the surface relieves.

If the baby's bowels are not moved within twelve hours after birth, careful examination should be made of the opening of the bowel (the anus) to see whether it is *imperforate* or not. Imperforate or physically closed anus requires the surgeon's assistance to relieve, and must on no account be neglected.

Wheezing. A baby for a few hours after birth may wheeze. There is nothing of moment in this. It simply arises from a little mucus in the air passages, and in most cases passes off with the first evacuation from the bowels. Babies who cry loudly immediately after birth rarely wheeze, as the cry dislodges the mucus. Mucus within the mouth, interfering with breathing, should be gently removed with a soft handkerchief.

**Purging
a New-Born
Babe.**

Every nurse should bear in mind that it is unnecessary and even hurtful to give aperient medicines to a newly-born child. If the child is put early to the breast, the mother's *first* milk (the colostrum), being of a slightly aperient character, is usually quite sufficient to open the bowels and remove the dark green substance (the meconium) contained in them.

If there should be costiveness, and the infant's bowels are not moved within twelve hours from birth, and an examination has revealed that there is not inimperforate anus, it is then not necessary to give aperient medicines, because a very simple remedy will usually put matters right. In such case half a tea-spoonful of moist sugar should be dissolved in a tea-spoonful of warm water and given to the baby, and if it does not operate within three or four hours the dose should be repeated. Moist sugar is the very best aperient for young babies, either dissolved in warm water or mixed with a little good butter.

The pernicious practice of giving purging medicines to infants as soon as they are born cannot be too much condemned, for the retention of the meconium, for some hours after birth, certainly produces less injury than is occasioned by the irritating action of the purgative substances which the child is often forced to swallow. Therefore, good mother, never allow your babe to be early dosed with aperient medicines, or evil consequences will most certainly ensue.

Want of attention is generally the cause of chafing in infants. If a baby is kept quiet, is well washed and afterwards carefully but thoroughly dried, it will rarely chafe. The best remedy for chafing is dusting of the parts with Matthews's Fuller's Earth. If there should be much excoriation and irritation a little freshly prepared cucumber ointment should be applied, two or three times daily, to the affected parts. In washing a child who is anywhere chafed, rain water, if possible, should be

used, and a little Barratt's Almond Meal added to the water increases its soothing action on the skin.*

Stuffing of the Nose. This uncomfortable affection which some new-born infants suffer from, may be relieved by rubbing a little tallow or lard on the bridge of the nose before putting the baby to bed. In severe cases a small sponge dipped in water, as hot as the hand can bear, and placed for a few minutes on the bridge of the nose will give great relief. Any hard mucus, which may appear near the entrance of the nostrils, must be carefully removed. A little vasaline gently insinuated into the nostrils will assist the removal of the mucus.

Enlarged Tonsils. If a child snores very much at night or when it is asleep, one may be certain that there is some enlargement of the tonsils.

Now, there are two tonsils situated at the back part of the mouth—one on each side—and these being swollen to more than their natural size, come close together when the child is laid down, and so partially close up the air-passage, thus producing a snoring noise by obstructing the passage of the air.

The tonsils are subject to different kinds of swelling, but the most common is that of a chronic character, in which they assume a spongy appearance, being slow in their growth, but becoming at length very troublesome, from interfering with the act of swallowing, producing a thickness in the speech and often some degree of deafness. Children of a scrofulous constitution are very liable to enlargement of the tonsils, accompanied with swellings of the glands of the neck. There is often difficult breathing, and in bad cases an irritative cough may be present which keeps the child from sleeping long together. Enlargement of the tonsils often follows an attack of quinsy.

It is very necessary if a child habitually snores when asleep to examine the throat, and if the tonsils are seen

* Almond Meal when added to hard water makes it quite soft and refreshing. It is an excellent preparation for the skin. It is prepared by H. Barratt, Chemist, 113, Pinstone Street, Sheffield.

to be much enlarged a medical man should be consulted, and in some severe cases a part or the whole of the tonsil may have to be removed. If this should be decided upon, it is not a formidable operation, and is almost painless if performed with skill. When the enlargement is but slight it is sufficient to give plenty of nourishing food, to guard against cold, and to paint the tonsils, twice a day, with tincture of Iodine. Three to ten drops (according to age) of syrup of Iodide of Iron should be given in a tea-spoonful of cold water, three times a day, directly after food. Cod-liver oil internally is often very useful, and so is Angier's Petroleum Emulsion with Hypophosphites.

The child should have an extra pillow to lie on, so as to raise it a little higher in the bed. To prevent the pillow slipping down Dr. Chavasse recommended that three curtain rings should be sewed to one side of the pillow. By this means the pillow could be tied in any required position, and it would thus be kept in place instead of uselessly slipping about.

Enlarged tonsils must never be neglected as they may lead, by interfering with the breathing, not only to deformity of the chest and lung weakness, but to stunting the development of the child.

How to Examine Mouth and Throat.

It may be advisable here to speak about the method of examining the mouth and throat of a child. In an infant, a little pressure with the fingers upon the chin, will cause it to open its mouth wide. If the child is older, and is intelligent, it will often open its mouth when bid, but if it refuses (as children often will), the finger or the handle of a spoon should be inserted into the mouth and the tongue pressed firmly down, when the jaws will separate widely. A child who is old enough to do as it is bid, should be made to put the tongue out and draw it in again alternately, keeping the mouth wide open all the time, in this way the back of the mouth with the tonsils, etc., can be clearly seen. Opening the mouth and saying "ah" slowly will also cause the back parts to be seen.

When a child is refractory, and always with infants, the tongue must be held down by the spoon-handle. Where there is resistance, the child must be set on the nurse's lap, with its back against her breast, and its face directed towards a bright light, the nurse controlling its hands and feet.

"The Mother's Throat Examiner" is a very useful little instrument, invented by Mr. R. Rauschke, Surgical Instrument Maker, 46, Woodhouse Lane, Leeds. It enables a mother to examine the mouth and upper portion of the throat of the youngest child with ease. It consists of a tongue depressor to hold the tongue down, a candle holder for small wax candle, and a metal mirror to reflect the light from the candle straight into the mouth. With this instrument a very careful examination can be made of the condition of the parts. Being moderate in price—five shillings—it should find a place in every nursery.

The instrument and the method of using it are shown in the cut Fig. 4.



Stopping Bleeding from Leech Bites.

may remark here that leeching is rarely necessary, and often mischievous, and that both it and other forms of bleeding have been almost entirely discarded by all enlightened practitioners.

Weak Ankles. A baby would seldom suffer from weak ankles, if it was not put upon its feet too early. A baby should be allowed at first to crawl about until its body and ankles become

If for any cause a leech has to be applied, and after it is removed the bite continues to bleed freely, simple pressure of the finger for a little time will generally stop the bleeding. I

strong. If the ankles, however, should be weak they should be bathed every morning, for five minutes, with Tidman's Sea Salt and lukewarm water—a small handful of the salt dissolved in a quart of water, and then well dried. After the drying the ankles should be well rubbed with the following liniment:—

Take of Spirits of Ammonia.....1 ounce.
" Olive Oil.....1 ounce.
" Oil of Turpentine.....1 ounce.

Mix them. This is a strong liniment of great service in sprains, and all muscular weakness. If too strong, owing to tender skin, the spirits of ammonia and oil of turpentine might be reduced one-half.

Never put "irons" on a baby, or any kind of mechanical support, without a doctor's advice.

This complaint usually appears first in

Thrush. the corners of the lips, and then on the tongue and cheeks, in the form of little white specks or ulcers. Increasing in number and size, they run together more or less according to the degree of severity of the complaint, composing a thin white crust, which at length lines the principal part or the whole inside of the mouth, from the lips down the throat to the stomach, and passes sometimes through the whole length of the intestines to the anus or lower entrance to the bowel, being accompanied with a redness.

It is called the *baby's sore mouth*, and, when extensive, causes the child to slaver very much, hinders it in its sucking, and renders it very restless and thirsty. In its mildest form, the thrush is white, and looks as if a clot of milk was spread over the mouth. In its severer form, the eruption is of a dark brownish colour, or it may be extremely red. It is a disease of debility, but is usually one unattended with danger. In numerous instances it is thinly spread over the lips and tongue, returns many times, and lasts for many days, perhaps weeks. It nearly always depends upon a deranged condition of the stomach and bowels, and, in violent cases, the bowels are either costive, or else irritated by stools of an unnatural character, being watery, acrid, and of a

greenish or blackish colour. The stools are sometimes so acrid as to excoriate the verge of the anus and nates very severely, especially when great cleanliness and frequent changing of clothes is not attended to.

It is a popular belief that the thrush must pass from the mouth through the body to the very end of the bowel, and the redness at the anus is supposed to be a proof of the fact. This is not true. Many infants have thrush slightly, the complaint not extending beyond the mouth and throat. In other cases, it extends partially or wholly down the throat, in which instances there may exist, as a concomitant, redness or irritation about the anus, the intervening parts of the digestive canal, however, not being at all affected. This excoriation arises no doubt from the acrid nature of the stools, which, in bad cases, are always very unnatural and irritating. Some medical men, it is true, talk of the transmission of thrush through the whole passage of the bowels, but mothers need take little notice of such opinions. Nearly every child who is sucking, has a white or "frosted" tongue as it is often called. The child's mouth is generally hot and painful, and it is afraid to suck, crying out when the nipple of breast or feeding-bottle is put into its mouth.

Thrush nearly always arises from improper feeding. If the child is at the breast it should not always be sucking, as that not only increases the soreness of its mouth, but tends also to make the mother's nipple sore. The mother should be more than usually attentive to her own diet, air, and exercise. It is not proper for a mother to drink any kind of stimulant, while suckling an infant with thrush.

If thrush appears in a baby who has been weaned, then it would be best to keep it, for some days on no other diet than sterilized milk.

The mouth of the child ought not to be rubbed with anything whatever with a view of cleansing it; the practice of scouring it with a piece of flannel cannot be too strongly condemned. Scarcely any other application is ever needed in thrush than that of Honey and Borax. A little of it put into the mouth in the gentlest manner on

the finger, and repeated three or four times a day, will be of great service.

Two or three grains of borax mixed with the same quantity of powdered lump sugar, should be put dry on the tongue three or four times a day. If the bowels are constipated about half a tea-spoonful of "Tasteless" Castor Oil should be given two or three times a day, or better still the following mixture:—

Take of Calcined Magnesia.....12 grains.
 " Powdered Rhubarb..... 3 grains.
 " White Sugar..... 20 grains.
 " Water..... 1 ounce.

Mix. Give a tea-spoonful of this mixture every two hours, until the bowels are less constipated.

If there be any irritation or redness about the anus, keep the part clean and dry, and dust with a little of Matthews's Fuller's Earth, or bathe with Yewdall's "Nurse's Lotion."

The apartment must be thoroughly well ventilated, and all vessels containing milk and food must be kept scrupulously clean.

If the thrush is very bad, and the child is much debilitated, change of air to the country will often work a cure in a very short time.

A mother must see that the child during the course of the thrush is fed upon the purest milk, and that it is always sterilized *immediately* as it is wanted. In fact if children were fed on sterilized milk, solely, the first year or two of life, thrush would be almost unknown. If good milk cannot be obtained Mellin's Lacto-Glycose or Milk Food is the best substitute, and in summer time when milk keeps badly, I should prefer it to milk.

This is not a mild but a malignant disease. It commonly attacks children about two years of age, making its first appearance by a very spongy state of the gums, and an extreme tenderness of the inside of the mouth; small dark ulcers appear on the gums, the inside

of the lips and the tongue, and sometimes they extend to the uvula and tonsils. The cheeks become slightly swollen and very tender to the touch, and there is often an unusual redness upon the skin covering the lower jaw. The tongue is much furred, and the edges of the gums covered with a blackish fur, and the breath very offensive.

This severe kind of thrush is always associated with languor and debility, bad appetite, and weak but quick pulse. The complaint lasts from a fortnight to six weeks. It is not a dangerous complaint although it looks formidable.

Pure air, thorough ventilation, and good food are essential to rapid recovery. Two tea spoonfuls of Infusion of Cascarilla Bark may be given, three times a day, to a child two years old. It is an excellent tonic. Good results may be obtained in these cases by giving twice daily half a wineglassful of Glendenning's Coca Wine.

Inflammation of the Mouth. There are several kinds of inflammation of the mouth in young children, all of which arise from a bad condition of the blood, produced by a variety of causes.

Simple inflammation of the mouth generally occurs in delicate children, and mostly after measles or some other debilitating fever. It is noticed that the child is not able to suckle so well, that it slobbers, and that the glands under the chin are swollen and tender. The child is feverish and restless, swallows only with pain and difficulty, its appetite fails, and diarrhoea comes on with sometimes very offensive stools. On looking into the mouth, in a bright light, it will be seen that a number of small white patches are scattered over the tongue, cheeks, and throat. Often these patches ulcerate, and the little ulcers secrete a yellowish-white matter, and in bad cases the ulcers run together and form a more or less large patch of ulceration. The disease may last several weeks, fresh ulcers appearing as the old ones heal.

In very weakly or badly fed children the gums may ulcerate. The upper lip swells, the glands under the chin become enlarged and tender, the breath is offensive, there is much slobbering, and there is great heat in the mouth. The gums bleed, are much swollen, are of a dark red color, and a kind of soft grey matter is deposited upon them. If the disease is allowed to progress the gums may be totally destroyed. In this case the teeth loosen and fall out. The inside of the cheeks may become ulcerated, and the tongue may be swollen almost too big for the mouth. Fever may run high if the ulceration is very severe. There may be swelling of the abdomen, flatulence, and offensive diarrhoea. As the disease progresses the child becomes unable to swallow, and in consequence, becomes so exhausted and emaciated that death results.

I have seen bad cases of ulceration of the gums in young children, following scarlet fever and measles. Habitual exposure to cold and damp, and living in ill-ventilated dark rooms are potent causes of mouth inflammation. Ulceration of the gums is to a certain extent contagious.

In these inflammatory mouth affections medical aid ought always to be procured, as a simple inflammation if neglected may assume serious proportions. The mouth should be frequently and gently washed with cold water, which has been previously boiled, to which about one per cent of boric acid has been added. The best way to wash out the mouth of a very young child, is to wrap lint or cotton round a stick or the finger and dip this in the solution, and gently swab out the mouth. Sometimes the application of Honey and Borax is useful. The bowels should be regulated if necessary by a small dose of Castor Oil or by Dinneford's Fluid Magnesia.

The best internal remedy is Chlorate of Potash. This drug is almost specific in its properties, especially in ulceration of the gums, and any other medicine will hardly ever become necessary.

In ordinary cases of mouth inflammation give the following medicine:—

Take of Chlorate of Potash.	16 grains
Simple Syrup	40 drops
Water.....	1 ounce

Mix. Give a tea-spoonful, to a child of a year old, every four hours. In severe cases of gum ulceration the above mixture should be administered, in tea-spoonful doses, every two hours. The contact of the chlorate of potash with the inflamed surfaces may at first give pain, but, in two or three days, if the remedy is persevered with all pain on taking the medicine will disappear, and a marked improvement in all the symptoms will be observed.

As the inflammation or ulceration is passing off, I should recommend Cod-Liver Oil and Glendenning's Beef and Malt Wine. Twenty drops of Brian's Heart Tonic, three times a day, in a tea-spoonful of cold water, is also a capital tonic. The best diet is sterilized milk or Mellin's Milk Food. If there is much prostration Benger's Food and Liebig's Peptarnis should be given.

Hiccup usually arises from over feeding

Hiccup. Attention to diet is what is necessary. If it should be persistent and troublesome, a tea-spoonful of Dinneford's Fluid Magnesia in a little aniseed water is the remedy. A child properly fed seldom hiccups.

Convulsions. Convulsions in young children may arise from many different causes, such as difficult teething, improper diet, hooping-cough, worms, violent excitement of the nursing mother, affecting her milk, severe blows on the head, brain disease, and constant unnecessary dosing with medicine.

The most frequent cause, however, of convulsions is *improper diet*. Over-eating, and the use of unsuitable food will cause a baby to have fits sooner than anything. A young child should never be stuffed with food, or have anything given it between its meals. If mothers would only suckle their infants during the first few months, taking care at the same time to maintain the quality of

their milk by strict attention to their own health, infantile convulsions would be extremely rare.

If the mother is unable to nurse the baby, then she should see to it that it is fed solely on sterilized milk, or on one or the other of the foods named in the Chapter on Diet.

Convulsions may often be prevented by timely medical advice, if a mother is only skilful to observe the first or warning symptoms. These usually manifest themselves some hours, or even days, before the attack ; they are, rolling of the eyes, alternate paleness and flushing of the face, bluish or blackish colour of the upper lip, which is often slightly drawn up, and sudden excitement or animation followed by languor.

The first thing to do when an attack of convulsions comes on, whatever the cause, is to undress the child at once and plunge it into a hot bath (105 degrees) for five minutes ; the bath should have a table-spoonful or more of mustard mixed with it so as to thoroughly stimulate the skin. This generally restores consciousness and checks twitching. Cold water may also be sprinkled freely on the face and the head sponged with it whilst the child is in the bath. The child should be well rubbed with the hand while in the bath. After coming out of the bath, the body must be dried, and then well rubbed with dry warm towels. The child should then be wrapped in a warm blanket and put to bed.

Should there be a distinct history of overloading of the stomach, a tea-spoonful of ipecacuanha wine may be given, every ten minutes, until free vomiting has been set up. After the vomiting the child might be put into a warm bath (98 degrees) for fifteen minutes, and when it comes out a tea-spoonful of "Tasteless" Castor Oil should be administered, and repeated every four hours until the bowels are well opened.

If in spite of treatment muscular twitching persists, the following medicine will be useful :—

Take of Bromide of Potassium.....8 grains.
.. Simple Syrup.....60 drops.
.. Water 1 ounce.

Mix. One tea-spoonful every two hours or oftener, according to the child's age.

When convulsions arise from difficult teething, the lancing of the gums sometimes affords immediate relief. When the tooth is nearly through, rubbing the gum with a lump of hard sugar often gives relief.

If a child is suffering from *hooping-cough*, and convulsions occur, the best thing to do is to immerse the child in the hot water and mustard bath, mentioned above, for five minutes, and to give it five grains of Bromide of Potassium dissolved in a little sweetened water. Cold water should be freely dashed on the face. Convulsions occurring during an attack of hooping-cough are attended with danger, and a medical man must be called in without a moment's delay. The same may be said concerning convulsions arising from any brain disease.

A young child is sometimes put to bed **Paralysis** quite well, but in the morning it is found **one side** to have lost the use of one side of its body. **of Body.** Now this is a kind of paralysis, and may arise from teething, worms, or some stomach or bowel disorder. It is not serious and passes off completely when the cause which produces it is removed.

The child should be kept warm, especially on the affected side. The paralysed parts should be rubbed, night and morning, with a little soap liniment. A dose of castor-oil should be given occasionally. The diet must be regulated, and of a nourishing character, according to the child's age and condition. Plenty of fresh air is necessary. If there is irritation from teething, perhaps lancing the gums may be required. Sometimes this variety of paralysis arises from the presence of a tape or round worm, if so a medical man must be consulted, as certain energetic measures may be required to expel the worm. Irritation arising from ordinary thread worms, may be cured by an enema composed of one table-spoonful of table salt, one table-spoonful of olive oil, and one tea-cupful of warm oatmeal gruel.

Drawing up of Face. A baby's face is sometimes drawn up, on one side, at birth, and remains so for some time after. There is no cause for alarm, and no treatment is needful. The disfigurement is caused by some pressure on the head, during birth.

Headache. There is a kind of neuralgia from which very young children suffer, which affects them in the form of very severe headache. This neuralgia usually comes on quite suddenly, may last for a whole day, then passes off as suddenly as it came, leaving the child quite well, but perhaps a little exhausted. The cause is generally some slight over-fatigue or excitement. Headache of this kind is often induced by the foolish practice, which some fond mothers have, of bringing a child out of bed late in the evening to show to admiring friends. I mention this custom to condemn it, for nothing is worse than to excite a child's brain late at night, when it ought to be sleeping soundly in its cot. In fact all unusual excitement, during the first three years of a child's life, should be strictly guarded against.

The treatment of the headache is simple—quietude, milk diet, and the placing on the child's tongue, three times a day, of one or two grains of Phenacetin. This powder is tasteless, and is only soluble with difficulty in water. It relieves headache and neuralgia better and more quickly than quinine.

Constipation. Improper or unsuitable food will frequently produce a costive condition of the bowels in infants and young children. Thus rice, sago, fine flour, eggs, tea,* and white sugar, will sometimes make the bowels of children tardy. Boiled milk (not sterilized) has the same tendency occasionally, and so have other articles of food. Their effects should, therefore, always be watched, and if they are found to produce this effect they should instantly be laid aside.

* The Universal Digestive Tea, which is devoid of Tannin, is not open to this objection.

Constipation may also arise from indigestion, from astringent or binding foods, from neglecting the calls of nature, from debility, from want of exercise, from worms, from foul air, from over-eating, from exposure of the legs and arms of children in cold weather, from the frequent giving of aperient medicines, and in older children from insufficient variety of food.

Now, in babies, constipation is often induced by sheer neglect on the part of the mother or nurse to get the infant into regular habits. A baby after the first few months should be held out at regular intervals. By this simple plan, the bowels may, in most cases, be brought into a regular state. It also gets the child into clean habits. If mothers would only attend to this matter conscientiously, they would be able to get their infants to do without diapers altogether, after the first three months. How much better this would be, for diapers only too frequently chafe and irritate the infant's tender skin. It requires, however, great tact and patience on the part of a mother to get her infant into the habit of passing urine, and having its bowels relieved every time it is held out. If she perseveres she will have her reward in the better health, and greater cleanliness of her child.

If the slightest indisposition manifests itself under a constipated state of the bowels, they must be assisted by artificial means; but if the child thrives well the mother need be in no haste to give medicine. If the bowels are very constipated, before giving aperient medicine, try a little *moist* sugar. Mix half a tea-spoonful of it in a couple of tea-spoonfuls of water, and give this, once or twice a day, till the bowels are relieved. *Pure* moist sugar is the best and safest aperient a mother can give to her baby. It is far superior to other forms of opening medicine, and has the advantage of not doing any harm.

Some people are very fond of teasing the bowels of young children, by frequently administering aperients. No practice can be worse than this, and I earnestly warn mothers and nurses against it. I should like to quote here what Dr. Underwood says in his work "*Disorders of Children.*" :—"I have attended in many families of

numerous children, all of whom have grown up strong and healthy, but been uncommonly costive, and have from their infancy been for several days without a motion; nor would any gentle means procure it steadily; and on the day when this note was made, I was consulted for an infant of only three weeks old, who had no stool for five days, and yet was perfectly healthy and easy. This is not mentioned, indeed, to lead practitioners to abate of their attention to a costive habit of body in infants, but in proof only of it being in some instances innoxious, and therefore no cause of alarm as long as children are otherwise perfectly healthy." With this I perfectly agree, and I may say, that as a rule, the frequent giving of various kinds of opening medicines, to very young children, not only sets up irritation of the bowels, but induces worse costiveness afterwards. A child, too, who is constantly physicked suffers from indigestion, and is much more liable to catch cold. In fact opening medicine, administered to young children, has been a potent cause of many an enfeebled constitution.

There are various simple means of removing costiveness if the *moist* sugar remedy fails, but bear in mind that the bowels need not be interfered with if the child is otherwise in perfect health. Half a tea-spoonful of honey, given early in the morning, is an excellent remedy. A couple of table-spoonfuls or more of tepid water may be injected into the bowel, once or twice a day, as necessary. A small piece of tallow candle passed into the fundament, every night, is an excellent remedy for constipation, so also is the injection of a tea-spoonful of pure glycerine (Price's). Another simple means of removing costiveness is an injection composed of a quarter of a pint of warm water, a tea-spoonful of olive oil, and a pinch of common salt. It is often quite sufficient to cure costiveness, to give a baby, every morning on waking, a table-spoonful of cold water, and two or three times during the day if necessary, increasing the quantity according to the age of the child. An increased quantity of water given with the child's food, will also produce a similar result; equal parts of

sterilized milk and pure water are usually the best proportions.

Should it be necessary to give an aperient medicine, by the mouth, the best is Manna, which imparts a sweet taste, may be dissolved in the food, and given from the bottle as often as required. A piece as big as a pea, once, twice, or three times a day, will be sufficient for an infant of six months. One advantage of manna is, it does not irritate the bowels.

Phosphate of Sodium can also be administered with the food; five or ten grains, three times daily, is the proper dose for a baby of six months. This is a safe, non-irritating laxative.

If costiveness is very persistent get the chemist to make, what is called, a *suppository*. This should consist of ten grains of cocoa-butter, and it should be passed, night and morning, into the fundament or back passage (the anus). It acts in a similar way to what a piece of tallow candle, previously named, does.

Rubbing the abdomen gently from the right hand side to the left, night and morning, will often induce the bowels to act, without any other aid. The hand should be anointed with a little vasaline, to prevent breaking the skin of the child.

Remember, never give Calomel or Grey-powder to a child (unless a doctor orders); they are both mercurial preparations, and although sometimes valuable, are more often injurious. Jalap is a very griping medicine, and must never be given. Castor oil, except in special cases, irritates the bowels, and sets up after constipation. Magnesia does the same thing, and instead of cooling an infant, only makes it feverish and irritable.

Some nurses try to induce an action of the bowels by passing a piece of paper into the anus. This is a cruel practice, and induces piles, and inflammation of the lower bowel, and causes the bowel to protrude externally.

The best way to prevent costiveness in a baby, is to pay particular attention to its diet, to see that it has

regular exercise in the open air, and in washing it to let the water stream, from a large and well-filled sponge, over its abdomen. Holding the baby out at certain fixed periods, whether it wants or not, will often induce a motion.

If the infant could be kept for the

Flatulence. first six or seven months entirely to the breast of a healthy woman, it would rarely suffer from flatulence or "wind." Indigestion is nearly always the cause of flatulence, and this can be avoided by proper diet. If an infant must be fed artificially, the preference should be given either to sterilized milk or to Mellin's Food. If a child's stomach is not over loaded with either of these foods, I may say, that they are less likely to produce flatulence than other foods.

A baby must never be allowed to suck the tube of an empty feeding bottle, as this is a habit which will be sure to provoke flatulence. Another cause of flatulence is too tight binding.

If an infant should be much troubled with wind, a little dill or aniseed water may be occasionally mixed with the food—say, half a tea-spoonful—or a few drops of sal volatile in water, may be given to it. This must not, however, be made a constant practice, for it would not only expose the child to suffer, when by accident or absence from home it should be neglected, but will destroy the very end for which it is used, by the stomach becoming accustomed to it.

Children, however, and especially infants, become less subject to wind as they grow older, and the stomach gets stronger; but should flatulence, notwithstanding, continue obstinate, a few drops of Tincture of Calumba mixed in water, with a grain of powdered ginger, will brace the stomach and bowels, and render them less disposed to acidity; or a tea-spoonful of the Infusion of Calumba, with half a tea-spoonful of Syrup of Orange Peel, may be given. An infant should be allowed plenty of exercise, according to its age and strength, as this wards off tendency to wind formation. It is a good plan

to make a baby break wind after sucking or feeding. This may generally be affected, by raising the infant and gently tapping it on the back, or by rubbing its stomach before it is laid in its cot to sleep.

If a child is suffering much pain from wind, great relief may often be given by turning it over on its bowels, so that they may press on the mother's lap. A warm bath (98 degrees), sometimes gives immediate ease, or a dose of mild aperient medicine.

Remember, no soothing medicines must be given to relieve pain.

The symptoms are violent screaming. **Gripings.** without any apparent cause, the legs are drawn up, the motions are slimy and usually greenish in colour. In breast fed children the cause of this griping is frequently to be found in some errors in the dietary of the mother. A mother's food at the nursing periods should be simple and nutritious.

In the case of artificially fed children, carelessness, on the part of the nurse or mother, in preparing the food—such as the use of sour milk, or of a bottle which has been but imperfectly cleaned—is a frequent cause of griping.

To keep her infant well a mother should never allow a bottle or part of a meal to be kept from one feeding time to the next, but the bottle should be emptied, at once, at the end of the meal, and then placed in soda and water to soak. The nipple should be washed carefully, and also put in the soda solution to soak. The smallest quantity of soured milk or food left in the bottle, is enough to upset the baby. Great care should therefore be exercised in very thoroughly cleaning the feeding-bottle and its nipple.

Another common cause of griping in infants, is want of care when bathing them. The cold air being allowed to strike the chest and abdomen after coming out of a warm bath, often produces stomach-ache and bowel complaints. Quickness in bathing, rubbing, and dressing, will prevent such evil results. In cold weather

a child when coming out of a bath, should be covered with a light blanket while being rubbed dry. Nearly all bowel complaints may be traced to some error in diet, on the part of either mother or child, or to the cause above named.

Should a baby at the breast be griped, the probability is that the mother has been imprudent in her diet, or has been eating trash, or has been foolishly purging herself with drastic medicines. Here the best remedy is a warm bath (98 degrees). The mother must be more careful in her diet.

If the child has been over fed, prompt relief may be obtained by giving a dose of "Tasteless" Castor Oil, repeated if necessary. If griping proceeds from improper food, the following mixture will speedily relieve it:—

Take of Fennel Water.....4 ounces
" Carbonate of Magnesia.....15 grains
" Aromatic Spirit of
Ammonia60 drops
" Syrup of Marsh Mallow....Half-ounce

Two to four tea-spoonfuls of this mixture every two hours (shaking the bottle each time), according to the age of the child.

A warm bath should in every case be given as it relieves griping whatever may be the cause.

Another excellent remedy is the following:—A piece of flannel should be folded into two or three thicknesses, and then dipped into warm water (98 degrees), and wrung out nearly dry, and applied to the child's bowels as hot as it can bear. The child should then be wrapped in a warm dry blanket, and kept in it for at least half-an-hour. It will generally fall asleep, and wake up free from pain.

In what is called *watery gripes*, a large quantity of watery fluid runs from the bowels in addition to the other symptoms. In this case a doctor should be called in.

More young children are carried off by *infantile diarrhoea* than by any other complaint. A knowledge of the symptoms, therefore, is necessary for every mother and nurse, in order that they may be able to treat it early, and may know when it is necessary to call in medical assistance.

In health, a baby ought to have from three to six motions in the course of the twenty-four hours; the colour of the motions should be of a bright yellow, and they should be of the consistency of thick gruel. There should be very little smell from the motion. Where there is a strong disagreeable smell from the motions, the baby is not well. Curds or lumps in the motions denote improperly digested food. If a baby has its bowels moved rather more frequently in the twenty-four hours, say, seven or eight times, and the stools are slightly thinner, but at the same time there be neither pain nor griping, nor loss of appetite for the breast or food, there need be no alarm. The mother should do *nothing*. No attempt should be made to check this slight diarrhoea. Such looseness is usually an attempt made by nature to remove some irritating material from the bowels, or to relieve the irritation of teething. It would be the height of folly to check this salutary looseness.

Sometimes, however, an infant has a dozen or more motions in the twenty-four hours, and they may be very watery, or slimy and green, or even cracked and curdled. The smell may be offensive, there may be pain and griping every time there is a motion, and the child will be sick, restless and whiney. This is true diarrhoea and requires attention.

There are many things that will cause diarrhoea in a baby; such as unsuitable food, over-feeding, teething, exposure to cold, the mother being out of health at the time of suckling, or her eating food which affects her milk, or taking strong purgatives, or suckling her infant when she is pregnant with another.

If diarrhoea is slight, and is caused by over-feeding or by some improper food, which has set up slight

bowel irritation, it is best to assist nature by giving a dose of "Tasteless" Castor Oil. A tea-spoonful of Dinneford's Fluid Magnesia, now and then, is also a capital remedy for slight looseness, which is probably caused by acidity. When the irritating material has been removed from the bowels, the diarrhoea will generally cease without further treatment. If, however, it should not, then, the following mixture should be given:—

Take of Prepared Chalk.....30 grains.
 ,,, Saffron30 grains.
 ,,, Syrup of Rhubarb.....6 drams.
 ,,, Fennel Water1 ounce.

A tea-spoonful every hour.

Should the mother be suckling her child she must be most particular in her own diet; she must avoid greens, cabbage, raw fruit, pastry, cheese, and every kind of alcoholic stimulant. She must keep her temper extremely serene.

If the child is being artificially fed, Mellin's Food, is the best in all cases of diarrhoea, and the milk employed should be changed and attention directed to its nature. It would, in fact, be best to sterilize the milk. The food should be given cooler than usual, and greater care should be exercised in the use of good water and clean bottles, and the origin and character of the milk.

I give here a simple remedy for the diarrhoea of young children which is often efficacious. Take a tea-cupful of flour, and tie it up tightly in a cloth and boil it for three hours; remove the thin outer coating, when it will be found a solid dry lump, like chalk; this must then be grated or scraped into flour. Wet a few spoonfuls to the consistency of paste, and pour on boiling water; give this as the only food for one or two meals.

This is a kind of inflammatory diarrhoea

Dysentery. and is far more dangerous than ordinary looseness. It generally attacks delicate children, although the strongest and healthiest may be attacked, and on no account should medical aid be neglected.

The symptoms of dysentery are fever, much looseness of the bowels with straining, the passage of viscid or slimy motions which, in the latter stages, become almost entirely blood and mucus; there is marked griping and violent straining. Sickness and vomiting are always present. The infant rapidly loses flesh, and becomes pale, haggard, pinched and exhausted. In a few days the most robust and vigorous child may be reduced to a condition of extreme emaciation.

The most frequent causes of dysentery are checked perspiration, exposure to cold and damp, violent purgatives, improper food, and especially the giving of unripe acid fruit.

A child which is kept for the first few months of its life entirely to the breast of a healthy mother rarely has dysentery, for this disease is most often the result of improper feeding. If by any chance artificial food and breast milk have been mixed, at once confine the baby to breast milk alone. But, suppose the mother has no milk or only a very scanty supply, or her milk is poor, I should strongly advise feeding the baby entirely on sterilized milk with a little salt in it. It should be given in small quantities at a time, so that the stomach may retain it. A little, say even, one tea-spoonful, every quarter of an hour, is better than a large quantity at less frequent intervals. A weaned baby should be kept entirely on sterilized milk. Don't forget the salt.

At the commencement of the complaint give the infant a warm bath (98 degrees). This is always soothing and often does good, and it induces sleep. Warmth is necessary in every case. A good plan if the child is too weak for a bath is to wrap it in a blanket, which has been previously wrung out of hot water (105 degrees), over which envelop it in a *dry* blanket. The child should be kept in this for half an hour; then taken out, and placed in a *warm* bed in a *warm* flannel night gown. I have known this treatment, even in critical cases, to be rapidly effectual, cutting short the disease, reducing inflammation, relieving pain, and inducing sound sleep.

If there is much griping pain, hot linseed poultices

may be applied to the whole of the abdomen; these should be frequently renewed and not allowed to remain on cold and clammy. Or some salt may be powdered and put to heat in the oven, and a flannel bag may be filled with this hot salt, and placed over the bowels. There is less chance of the child getting cold from this hot dry application than from the frequent changing of the damp poultices. The salt too retains its heat a long time.

A very good remedy is white of egg beaten up in milk or water; this is nourishing, and somewhat binding in its action.

I would advise a mother at the very outset of the complaint to at once give to her baby about three grains of calomel, mixed with an equal quantity of powdered white sugar, and put dry on the tongue. This is a very effectual remedy. It stimulates the liver and skin, and relieves pain and inflammation. In three hours after, commence with the following powders:

Take of Ipecacuanha Powder.....6 grains
 Rhubarb Powder.....6 grains

Mix them, and divide into six powders; one to be taken every five or six hours, in a little cinnamon water.

As a rule there is no remedy equal to Ipecacuanha in infantile dysentery, and if a mother gives the above powders for a day or two she will probably check the disease without further medicine. Prompt action, however, at the very commencement is what is required.

If the disease has lasted for several days, and nothing but blood and mucus come from the bowels it may then be advisable to give a mixture of Castor Oil and Laudanum. A very good combination is the following:—

Take of Mucilage of Gum Arabic...3 drams
 Simple Syrup.....3 drams
 Laudanum 10 drops
 Castor Oil.....2 drams
 Cinnamon Water.....4 drams

Make a mixture. A tea-spoonful to be taken every four hours. First well shake the bottle.

Remember, calomel must only be given at the commencement of the disease; it is of no use where the complaint has lasted for several days, and the child is passing mainly blood and mucus; it then only aggravates. The castor oil and laudanum treatment is the best in this latter case. The laudanum, however, must be given with extreme care, as young children are very susceptible to the action of all opiates. A doctor must be called in always without delay.

If a baby at the breast is sick, but

Vomiting. otherwise, appears well, and seems to thrive, it is probable that its stomach is simply over loaded. In this case the baby must not be allowed to suck so much at a time. If the quantity of breast milk is lessened the sickness will soon pass off.

It should be remembered that a young infant's stomach is very small; it holds at first only about a wine-glassful. A baby often sucks its food very vigorously, and thus rapidly takes in more than enough to fill its little stomach; so it returns the excess by what is known as "*posseting*"—that is, from time to time a small quantity of food slowly trickles from the corners of the child's mouth. When this condition arises it is only necessary that the baby should be kept quite still after feeding.

If a baby be sick and appears poorly as well, disordered stomach will account for the vomiting. The vomited milk will have a sour smell. This disordered stomach in the baby may arise from its mother's own health not being perfect, and thus her milk not agreeing with her child. If a mother's stomach is out of order her milk is sure to be affected. It is very important that a mother take care of her own health, as so little will alter the quality of her milk. A dry and furred tongue, a disagreeable taste in the mouth, griping pains at the stomach, heart-burn, or flatulence are symptoms which clearly point to disordered stomach in the mother, and when these are present, means should be taken to

restore the health, and consequently the good condition of the milk.

If the mother's health is good, and her stomach not disordered, and she is taking suitable diet, sickness in the infant will depend upon some condition of ill-health in the babe itself. This may arise from teething, constipation, or from improper artificial food. Vomiting from teething may be relieved by lancing the gums if they be red, hot, and swollen. Constipated bowels require a dose of "Tasteless" Castor Oil, or a few doses of Dinneford's Fluid Magnesia. If food does not agree, it should either be given in smaller quantities or changed to another kind. Of all artificial foods, Mellin's is the most suitable for disordered stomach in infancy and childhood.

If vomiting is attended by fever, and there appears to be much lassitude, I should advise perfect rest for the whole body, reduction in the quantity of food, and the following mixture in tea-spoonful doses, every three or four hours :—

Take of Lime Water.....1 ounce

,, Cinnamon Water.....1 ounce

Mix. Two grains of Taka-diastase (P. D. & Co.) given in a tea-spoonful of milk, immediately after food, is an effective remedy for infantile vomiting.

A mustard leaf placed, for a few minutes (five or ten), upon the pit of the stomach is always useful. If in spite of simple treatment vomiting continues, call in a medical man.

Ear-Ache. This is a very common cause of crying in infancy and early childhood. It may generally be known from the character of the screaming when a child has the ear-ache. The cry is *continuous*, and the child frequently carries its hand to its head. In bowel-pain the crying is more *intermittent*, and the motions from the bowels are usually altered in character and are offensive; in ear-ache the bowels are natural.

Put into the child's ear, for a short distance, a small piece of cotton wool saturated with a two per cent solution of cocaine. This will give speedy relief. Apply a hot dry flannel to the external ear.

This is an inflammation of the skin

Nettle-Rash. of a superficial character. It is distinguished by the appearance of red or white wheals, or patches on the skin, resembling those produced by the sting of the nettle. These wheals are of an irregular shape, they rapidly appear, and as rapidly disappear. When felt with the finger they are found to be raised above the surface of the skin. The wheals tingle, prick and burn, and are extremely irritable. The child is slightly feverish. In some cases before the patches come out, there is high fever, vomiting and much head-ache, and as soon as the wheals come well out on the skin all the constitutional symptoms pass off. Nettle-rash is not contagious.

Exposure to cold and heat, unsuitable diet, and irritation of teething, are causes of the disease. I have known some foolish parents indulge an infant with such unlikely articles as pork, ham, shell-fish, shrimps, sour apples, green gooseberries, etc., and then wonder why nettle-rash was produced. None of these things are fit articles of diet for a child.

If the weather is cold and wet the child should have extra warmth in clothing. If teething is the cause of the irritation the gums should be carefully examined to see if lancing is required. At the commencement of an attack an emetic of Ipecacuanha Powder (half-a-grain) should be administered, followed afterwards by an occasional tea-spoonful dose of Dinneford's Fluid Magnesia. Great relief may be given to the itching and burning by painting the wheals, after the bath and before going to bed, with a solution made by dissolving one grain of Sulphate of Copper in an ounce of water. Use a camel's-hair brush.

Red-Gum. This complaint is sometimes called *tooth-rash* or *red-gum*. It consists of an eruption on the skin of little pimples, about the size of pin heads. It is sometimes mistaken

for measles. In red-gum, however, the child's health is good, and there is only the eruption; in measles, not only is there an eruption, but there is fever, attended by sneezing, running of the nose, and redness of the eyes.

Red-gum usually arises during the early period of teething, when the teeth are forming in the gums. In some cases it may be caused by disordered bowels.

No attempt should be made to drive the eruption in, as a sudden checking of it might cause convulsions or diarrhoea. The child should be kept moderately warm, and free from draughts, damp and cold. If any medicine is required a little Dinneford's Fluid Magnesia is the best.

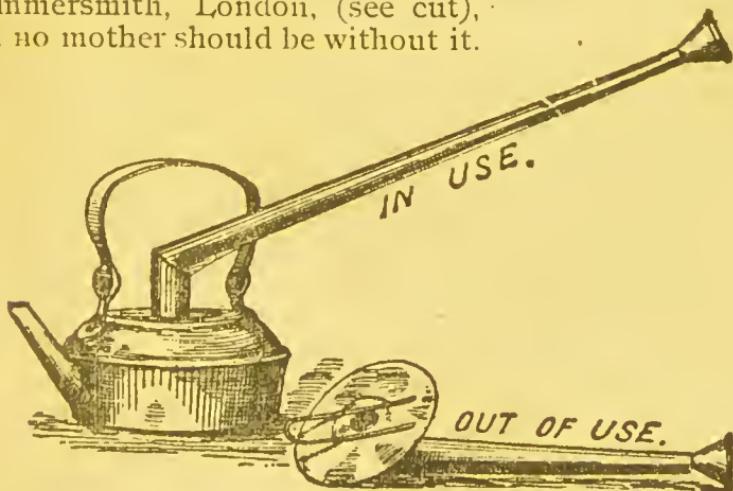
Nævus or "Mother's Mark." This consists of veins growing close together under the skin, and generally situated on the face, head, or neck. If it is in a large patch it is called a "port wine mark."

Unless a nævus is so situated as to be an eye-sore or an inconvenience, or unless it shows a decided tendency to rapid increase, there is no necessity to operate on it. Most of these marks after a time cease to grow, they waste and become less prominent; therefore, if a nævus is but small, and does not disfigure, it is best to leave it to nature. The Ethylate of Sodium applied to a small nævus will generally destroy it. It is better to let a doctor apply it. If a nævus shows a tendency to spread, some surgical interference may be necessary in order to avoid unsightly disfigurement.

Cold and Coughs. A cold in the head may be known by watery eyes, sneezing, and discharge of watery mucus from the nose. The skin sometimes feels dry and hot. A hot bath of 105 degrees will usually check a cold in the head. It is a good plan to grease the forehead and bridge of the nose with a little tallow or mutton suet. A little vasaline may be inserted inside the nostrils. Three drops of Ipecacuanha Wine in a tea-spoonful of sweetened water, may be given three or four times a day.

Cold in the head, if neglected, is very apt to terminate in what is called *bronchial catarrh*. Here there are hoarse cough, rapid breathing, quick pulse, and fever.

Bronchial catarrh may terminate in inflammation of the lungs if not properly attended to. The child's chest and back should be rubbed thoroughly, three times a day, with a liniment composed of one part of turpentine to three parts of olive oil; the child should have a warm bath of 98 or 100 degrees every night; it must be kept in one room (properly ventilated) at a temperature of 72 degrees Fahr.; according to whether the child is suckling or has been weaned, the diet should be breast milk, sterilized milk, or Mellin's Food; and most important of all, the atmosphere of the room should be kept moist with the steam from a kettle boiling on the hob, which steam may be conveyed well into the room by having attached to the lid portion of the kettle one of Procter's Portable Bronchitis Vapour Diffusers. This simple invention may be fitted on to any ordinary kettle, converting it at once into a bronchitis kettle. It may be obtained for 1s. 9d. from H. R. Procter, 113, The Grove, Hammersmith, London, (see cut), and no mother should be without it.



Three or four drops of Wine of Ipecacuanha must be given in a little sweetened water, every three or four hours. The mother must on no account neglect to call in a doctor.

CHAPTER XII.

Management of Childhood till Puberty.

In the preceding chapters of this work, **Childhood.** I have principally considered the management of children during the earliest period of infancy, that is, for the first year, or from the time of birth to that of weaning. I shall now enter a little more explicitly into the consideration of the management proper, extending from the time of weaning to the completion of the second teething and the period of puberty. I may mention here, however, that infancy usually includes the space of time from birth to the completion of the first teething—about two and a half years—when childhood may be said properly to begin.

After a child is weaned it is still exposed to certain dangers consequent on the change from breast milk to artificial food, and also from the continuance of the process of teething. Not only so, but every error in diet will continue during the whole period of childhood, to be a fruitful source of disorder and irritability, whilst on account of the rapid development of the organization the nervous and circulating systems, and the various nutritive functions, are kept in a state of high activity, favourable to the production of disease. It must never be forgotten that, during the years of childhood, many diseases lie in ambush, only waiting the first opportunity to seize upon the young life. The whole constitution of the child being under the influence of new stimuli, it is evident that the health is so highly susceptible of derangement as to make a continual call upon the watchfulness of the mother or nurse, as well as the skill and attention of the doctor.

Meals and Over-Eating. Errors in diet are more destructive to children than any other single source of mischief. I would strongly caution a mother to see that her child is not always eating. A child, from the age of three years up to the period of puberty, should never have more than four meals a day. There should be an interval of four hours between each meal. The stomach demands intervals of rest; this is necessary so that the food which has been taken may be converted by the action of the juices into healthy chyle* and blood, and the organ preserved from disease and irritation. In order that there may be perfect digestion it must be insisted upon that a child eats slowly, masticating the food well, so that it may mix thoroughly with the saliva. No food should be allowed between meals, neither should the child be permitted to indulge in sweets and fruit during the intervals.

Rapid Eating. No harm will be done by allowing a child to completely satisfy the appetite at meals, provided the food is thoroughly masticated and eaten slowly. It is when unsuitable or indigestible food is taken, or when the food is quickly "bolted" down, half masticated, that there is danger of over-feeding and consequent disorder.

Indulgence of Caprices. A child should not be indulged in all its wishes and caprices, and allowed to eat whatever it sees or asks for. Not only are the moral forces of the mind debilitated by this indulgence, but the foundation is laid for disordered stomach and general ill-health. A mother who allows excessive indulgence in eating and drinking, or does not strictly restrain an inordinate appetite, is guilty of a double breach of duty, and must expect to bear the penalty of the violation. A child, at this period of life, if not well-looked after, is too apt to abuse the stomach, either from a craving for improper articles, or a sudden impulse, whereby the foundation is often laid

* The chyle is a kind of milky fluid formed in the stomach out of the food by the action of the pancreatic juice and the bile. This fluid is gradually absorbed and forms blood.

for future weakness, if not of disease, of the digestive organs.

Diet to Eighteen Months. From weaning to eighteen months of age the best diet for a child is milk, Mellin's Food, Malted Food, Mellin's Food Biscuits (of which I think highly), a little mealy mashed potato and gravy, or crumb of bread and gravy (at dinner), with a little rice, sago, or tapioca pudding.

Diet to three years. From eighteen months old till two and half or three years the following is the best diet:—

First meal, 7 a.m.—One or two tumblerfuls of sterilized milk, a small plate of well-cooked oatmeal porridge (Union Jack Rolled Oats the best), and a slice of *well-buttered* bread, and perhaps one or two Mellin's Food Biscuits.

Second meal, about 11 a.m.—A tumblerful of sterilized milk with a few Mellin's Food Biscuits or a slice of bread and butter.

Third meal, 2 p.m.—A slice of underdone roast beef or mutton, or a little roast chicken minced fine; a baked potato thoroughly mashed and moistened with gravy; a slice of bread and butter; a little rice or sago pudding made with milk. Note:—A little well-boiled suet pudding may be given in place of meat.

Fourth meal, 7 p.m.—A tumblerful of sterilized milk and a slice or two of bread and butter, or a few Mellin's Food Biscuits.

Until a child has cut the whole of its first set of teeth meat every other day is often enough, after that meat can be given *once* a day.

Too much Meat. The children of persons in easy circumstances in this country, are allowed too much meat, particularly in the early periods of childhood. I believe that, as a general rule, until a child has reached seven or eight years of age it should only have animal food in the strictest moderation. Many children thrive better by

having meat only two or three times a week, provided that on the intermediate days their milk, fruit, and farinaceous diet be of the best kind, and they have plenty of out-door exercise.

Meat contains nitrogen, which builds up the muscles; but this nitrogen is also found in white of eggs, in milk, and farinaceous foods, so that really a large amount of meat is not essential for a growing child. If, as I have seen, in some families, a child is made to eat meat at every meal, under the mistaken idea that animal food in abundance is good for it, all I can say is, it is actually injurious. Too much meat deprives the system of the fat and nerve making food, without which animal heat and nerve force cannot be maintained, and it also irritates the bowels and kidneys. One will never find a young child who is a large meat eater healthy. The tongue will be coated, the breath foul, the build slender, and there will be more or less indigestion. Meat eating children are given to talking in their sleep. Contrast such a child with one fed mainly on milk, porridge, farinaceous food, well-cooked vegetables, fruit, and only a small quantity of meat, and the latter will be sure to be fatter, rosier, having a healthy complexion, and to be of a brighter and happier disposition.

Those young children are, on the whole, most healthy who eat little animal food. "What children are stronger and more healthy," says Dr. T. G. Graham, "than those belonging to the better class of our peasantry—those who are comfortably clad and housed, and are supplied with regular meals, although of a homely kind? And yet they rarely taste animal food oftener than once or twice a week."

Parents will find, therefore, that if their children, up to seven or eight years of age, have four good meals a day, consisting mainly of milk and farinaceous foods, and only a little animal food, in any case not oftener than once a day, they will have better health than meat fed children, and will be morally as well as physically healthier.

**Diet to
Seven Years
of Age.**

more varied.

When a child has cut the whole of its first set of teeth, that is, at about two and a half or three years of age, and from then up to seven or eight years, the diet at each meal should be

Breakfast.—Boiled bread and milk—the milk should be new if possible and not watered or skim; as much bread and butter as can be eaten, not stinting the butter; well-boiled oatmeal porridge; cocoa and bread and butter. These might be varied from time to time.

Dinner.—Roast beef or mutton, cut up very small, and mixed with mealy, mashed potato and gravy. The mother must see that the child eats a little salt with its dinner. The food must be well masticated, eaten slowly, and not "bolted." Pork, veal, and salted meats are hard to digest, and are, therefore, not suitable for a young child. Now and then, for a change, a little unsalted boiled beef or mutton may be taken, or a grilled mutton chop, a lightly boiled egg, or a little chicken or rabbit. **Vegetables**—old potatoes well cooked, mealy and mashed; asparagus, broccoli, cauliflower, French beans, or turnips, green peas, if well boiled till quite soft, and mashed with the knife on the plate. **Puddings**—rice, suet, batter, tapioca, baked apples, stewed rhubarb or gooseberries.

A child should drink nothing but water, or toast and water with the dinner.

A child should not have the same food one day as another—it should be *varied*, as *variety in diet* is good for a child, and builds up muscle, bone, and sinew; and tends to regulate the bowels.

If the child has breakfast early, say at seven a.m., and does not dine till two, a glass of milk and a slice or two of bread and butter, or bread and jam, may be taken about eleven a.m.

Tea should be about six p.m. and should be somewhat similar to breakfast, varied, however, occasionally.

Fruit and Jam. Sound fruits may be allowed before and after the meals, such as oranges, grapes (seeds not to be swallowed), peaches, ripe pears and apples, strawberries and bananas.

Ripe fruit is an important article of diet for children. The acid contained in *ripe* fruit aids digestion and is a good tonic. Some good jam or marmalade may be taken occasionally at breakfast or tea, and at dinner with puddings, or a little honey on bread.

Bacon. Now and then at the breakfast meal good bacon may be provided. A small rasher of fat bacon with bread forms a nice change in the diet. The bacon fat acts very like cod-liver oil, and strengthens the system, besides being a slight aperient.

Fat. All growing children should have a certain amount of fat supplied daily either in the form of bacon, butter, fat of meat or milk (cream). These may be called the *natural fats* and are important for developing nerve-force. Fat, too, helps to maintain animal heat, and nourish the various cells of the body. Of all fats butter and milk are the best, and a child should not be stinted of them. Do not give a child any kind of food fried in grease. It is indigestible.

A Young Child's Supper. A child of from three to seven years of age should never be put to bed immediately after tea or supper with its stomach loaded with milk, bread and butter and jam. The supper of a child of this age should be very simple—bread and milk, or milk with bread and butter, is all that is necessary, and then half-an-hour allowed before putting to bed. Jam given freely before going to bed will cause indigestion, fill the bowels with wind, and upset the whole circulation, and disturb the brain. Sound sleep will then be impossible, and the child will be restless and dreaming all night.

Growing Children. It is very important that a child should be properly fed, clothed and housed during the first ten years of its life. Upon these essentials its whole physical and mental capacity largely depends. During the period of active

youth and development of the body a child may be languid, and disinclined to either bodily or mental exertion. In this condition food which can be easily taken up into the system, and can be digested without trouble, is demanded. A child, especially if it is growing fast, is sometimes not able to digest solid food at each meal; in such case Mellin's Food prepared with good milk will relieve languor by supplying nourishment, which at once enters the circulation. Mellin's Food Biscuits may be eaten freely as they are highly nutritious and sustaining.

The following mixture will be useful for fast growing and languid children:—

Mellin's Food....One to two table-spoonfuls

MilkOne half-pint

One fresh egg. A pinch of salt.

First dissolve the Mellin's Food in a little hot water and mix it with the milk, beat the egg thoroughly and add to the Mellin's Food and milk. Sweeten with either loaf or brown sugar according to the condition of the bowels. As much of this mixture as is desired may be taken midway between meals and at bed time; or at any time when the need of it is felt. It should be sipped slowly either cold or warm.

Diet after Eight Years of Age. When a child reaches the age of eight or nine, and is full of vigour, diet, in reason, may approach very nearly to that of the parents. Meat should now

be taken twice a day—a little bacon or potted meat, or fish at breakfast, and meat with the dinner. A child of twelve or fourteen years of age requires quite as much food as a grown man. A boy or girl should not be stinted of food, but the food must be taken at meal times, and, as said before, eating must be slow and the food well masticated. The diet while plain must be varied, and the same food should not be given with such frequency that children begin to dislike it. Parents should always bear in mind that a variety in diet is essential to good appetite and digestion.

Children should be encouraged to eat **Vegetables.** plenty of fresh vegetables, such as roasted potatoes (new ones are indigestible), fresh peas, French beans, asparagus, boiled onions, lettuce, mustard and cress, and water-cress. All these may be taken by children over three years of age. Children of ten and upwards will derive benefit from celery and tomatoes, beet-root, cauliflower, turnips, parsnips, carrots, cabbage, etc. Most vegetables are good, the acids in them aid digestion, and if partaken of freely, there is rarely need for aperient medicine.

Meat and Fish. Ham, pork, liver, tongue, corned beef, salted fish, should not be admitted into a child's dietary—they are difficult of digestion. All fresh meat must be either roasted, boiled, broiled, or stewed, but never fried; fresh fish, steamed or boiled is wholesome. All shell-fish, with the exception of oysters, must be rigidly withheld. I have seen nettle-rash and other irritable skin affections brought on by eating shell-fish. Of course if oysters are allowed (and they are very nutritious) the source from whence they are obtained must be carefully considered. Oysters must always be taken raw, they are as indigestible as leather when cooked.

Pastry, etc. Pastry, new bread, tea-cakes, muffins, crumpets, hot scones, etc., are all difficult of digestion, and should never be allowed to young children. Buttered toast, and cooked grease in any shape, are indigestible and unwholesome, and so are almost all the sweet dainties of a pastry-cook's shop.

Condiments. Salt is one of the best condiments that can possibly be given to a child, as it promotes digestion, and improves the quality of the blood. Parents should see that the child eats a little salt at meal times. No other condiment, however, should be used. Sauces, pickles, vinegar, pepper, and spices, and all highly seasoned food should be strictly prohibited to children. In fact, to maintain a thoroughly healthy digestion every kind of stimulating

food must be forbidden to a child. Dr. F. H. Rankin, says:—"Highly seasoned food should be forbidden, because it prevents the appetite, creates in the child a desire for still more highly seasoned food, which desire, when fostered, leads in turn directly to intemperance in later life. If during childhood and early youth, the stomach were kept free from the baneful influence of all stimulating food, I am convinced that there would be fewer drunkards."—*Hygiene of Childhood*.

Sugar. Although for babies and children under five years of age, I am of opinion that sugar should be given in extreme moderation on account of it setting up acid fermentation in the stomach; yet after that age, when the powers of digestion are more vigorous, I am convinced that sugar, in one form or the other, should enter largely into children's dietary. It should be taken, however, as a sweetening agent with meals, and a child should not be unreasonably stinted in its desire for sugar.

Recent investigations have shown that sugar is unquestionably a force-producing food. In a paper read before the Royal Society, in 1893, Dr. Vaughan Harley showed that the addition of sugar to the ordinary diet had a marked effect in retarding fatigue. Sugar also in the process of digestion gives out heat, and this heat gives more power to the body to resist cold. A child who has plenty of saccharine matter in the diet, whether in the form of pure sugar, treacle, or honey, will be stronger in every respect, and have more power to resist cold and fatigue, than a child who is deprived of it. Dr. Rush, used to assert, that the plentiful use of sugar was one of the best preventives of the diseases occasioned by worms. Without going so far, I may say, that as a rule, the sugar-eating child enjoys better health than the non-eating one. Only bear this one thing in mind, that sugar must only be taken at meals. Do not let the child be eating all kinds of sweets *between* meals. The best and most wholesome sweets are the old-fashioned sugar-candy and good chocolate.

**Tea and
Coffee.**

Both tea and coffee are unsuitable for very young children, as they spoil their relish for milk, which should be the principal drink up to the age of ten or twelve years.

Dr. Ferguson, found that among factory operatives, those children who were plentifully supplied with milk to drink, night and morning, grew nearly four times as much in weight, between the ages of thirteen and sixteen, as those fed on tea and coffee diet, the stimulating properties of which are specially injurious. Now, whilst agreeing in the main with Dr. Ferguson's views, I still am of opinion that after nine years of age a little tea or coffee, *now and then*, as a change, at the morning meal preferably, is beneficial to the growing child. Both tea and coffee in moderation are excellent nerve tonics, and also are valuable in enabling the system to resist cold and overcome fatigue, they are valuable also in lessening too rapid tissue waste. Coffee has a tendency to keep the bowels regular if there is constipation, whilst tea has the opposite effect, but acts on the skin promoting its secretion. I am persuaded that good coffee has a kind of power to ward off attacks of fever, and it should be given to children when there is fever in the neighbourhood.

Tea and coffee to do good require to be perfectly pure. If a child has tea it should be all *black* tea, and given weak, and plenty of milk added. Those teas which are nearly free from tannin are the most wholesome. A tea which I often recommend as a wholesome *occasional* drink for a child is the Universal Digestive Tea. In this tea the tannin has been neutralized so that it can be taken by the most delicate stomach, without causing indigestion. This tea can be obtained from the Universal Digestive Tea Co., 100, Market Street, Manchester.

Coffee must be taken pure, not mixed with chicory which is most injurious. The coffee should be prepared fresh from recently roasted and newly ground Mocha beans. If it is possible the raw beans should be purchased, roasted and ground at home. Coffee roasted elsewhere is generally under-roasted, and for a good

reason: if roasted until it assumes a chestnut brown colour it loses twenty per cent of its weight, which is a serious consideration for the retail dealer, and if subjected to the action of heat until it becomes dark brown the loss is equivalent to twenty-five per cent. No larger quantity should be roasted than is likely to be consumed in a period of three or four days, as it otherwise loses its flavour, and during the process the addition of a little good butter will make a considerable improvement in the taste. The coffee itself should be a decoction, the result of about two minutes boiling, and if distilled water could be used, in place of ordinary water, an ideal beverage would be the result. Half a breakfast-cupful of coffee so prepared filled up with hot milk will in many cases benefit a child, and in any case can do no harm. It is the giving of rubbish in the form of tea and coffee which has excited prejudice against the use of these drinks for children and young persons. At the same time it should be remembered that they should be only occasional drinks, and must in no case be allowed to take the place of milk and cocoa. This latter is of great value to growing children when prepared with milk. Cadbury's is the best form, on account of being entirely free from all admixture.

Drink. Simple spring water filtered, or toast and water, or milk and water, are the best beverages for children. They ordinarily require no other drinks, and the practice of commencing at a very early period of the child's life to give it a variety of stimulating drinks, under the notion that it should be accustomed to eat and drink everything, cannot be too severely condemned. Children may, as a rule, safely be allowed to drink as much water as they wish, at all times, except when heated by very active exercise. If a child has nothing but water to drink when it is thirsty, there need be no fear of it taking too much. It will give over drinking when satisfied. An infant even will not be hurt by drinking *pure* water. A very wholesome drink for children is new butter-milk slightly sweetened.

A child should never be allowed any **Stimulants.** kind of alcoholic stimulant. Alcohol in any form or shape is not necessary for a child. Some parents are foolish enough to allow a child a little beer to its dinner. This is a dangerous and absurd practice both morally and physically. The child is very likely to get fond of stimulants, which in after life may prove a bane and curse. Alcohol, in whatever form it be given, whether wine, beer, stout, or spirits will *not* strengthen a young child; it will, on the contrary, induce a feverish condition leading to the loss of strength; it will act injuriously upon the nervous system and the heart, setting up disease of the brain, liver, lungs, or kidneys. All stimulants contain alcohol, in larger or smaller quantity, and alcohol, however diluted, is a rank poison to a growing child.

M. Lancereaux has very plainly shown what is the effect of alcohol upon the growth of children. He points out that the use of alcohol by children is one of the chief causes of premature death. Even a small quantity of alcohol is as dangerous for a child, as is an excess of alcoholic beverages for an adult; it causes various organic changes, hinders physical development, and impairs all the faculties. For these reasons, then, alcohol should be proscribed as drink for children.

Wine ought not to be given to a child, unless for some special reason it be ordered by a medical man; it is even more injurious than beer. If wine for any medical reason should be required, I should prefer to give it in the form of Glendenning's Beef and Malt Wine, and that only with food, and in strictly small doses of, say, half a wine-glassful with the principal meals.

Diet of School-Children. A child at school, whether boy or girl, must have an abundant and varied diet, for this is a period of life when rapid growth takes place combined with great wear and tear of body and mind, while at work and at play. If plenty of good nourishment is not now supplied the blood becomes poor, the child does not develop properly, and if there is any tendency to

hereditary disease it is encouraged. Again no child can learn properly if it is ill-nourished. A school child must be well fed, otherwise the advantages of education will be thrown away. For the children of the poor the State ought to provide liberal meals—not as a duty only but as a legitimate right—for it is folly to enforce education if the brain is left powerless to assimilate knowledge from want of nourishment.

Meals must not only be palatable and varied, but regular. A school-child should not have too long an interval between meals. It is often well at this period to let a child have a glass of milk, or a little bread and butter, or a few Mellin's Food Biscuits between breakfast and dinner, or between dinner and tea, and this especially if the child is delicate, or if it eats poorly at its regular meals. This extra nourishment must not, however, be given close on a regular meal. On the other hand, a child must not be allowed to be always eating, as by over-loading the stomach indigestion is very apt to be set up, and this too with the plainest food. How can I too strongly condemn the stuffing of children, in season and out of season, with all kinds of rubbish in the form of indigestible sweet-meats? Many a child has had its digestion impaired for life by cakes, tarts, pies, and sweets, which injudicious parents and friends have with mistaken kindness crammed it with.

A child who is at school should have plenty of time allowed to get its meals. There should be no hurry. Not only should the meals be taken at a regular time, but the child should be compelled to spend a considerable time over them—eating slowly, and thoroughly masticating the food. There should be no hurry or excitement because all the nerve force is required for the act of digestion, and if it is diverted in another direction the food is not so well digested. A meal eaten slowly and quietly digests the best. For the above reason it is as well not to allow a child to read at table as the blood is diverted from the stomach to the brain. On the other hand a good laugh and pleasant surroundings encourage digestion. Parents should always make meal times

pleasant for their children. There should be nothing mentally depressing allowed at table. A child should not be allowed to leave the table as soon as it has finished its meals, it should wait till all have finished. Half an hour's rest after meals is advisable before either work or play be resumed.

If a child lives a long way from the school, and in consequence has to take a lunch or dinner with it, this should consist of plain but appetising food, such as nicely prepared bread and butter, mutton, beef, or chicken sandwiches, the yolk of a hard boiled fresh egg, stale sponge cake, good ginger bread, and any kind of fruit but nuts, plums, or cherries. It is not wise to give a child ham or corned beef sandwiches. I think, however, no child should be kept so long at school as to need to take a lunch there. No child under ten years of age should be kept at school longer than from nine o'clock till twelve, at which hour all schooling should be finished for the day, and the child can return home to dinner. Schooling at the present day is pushed to the extreme in the case of young children, whose brains are unnaturally worked at the expense of their stomachs, and all to get results.

School Life and its Dangers to Health. A word might here be said on this subject. Our school system needs reform from beginning to end. The studies are mostly useless, and if a child six months after leaving school knows how to read and write, that is about all it does know.

The rest is forgotten. The same may be said for middle-class education. But during a boy's curriculum his health may be irreparably injured, and he may be rendered a nervous fit-for-nothing being for life. This is owing to the close application to useless and non-sensical stuff that is exacted from children; to the bent and muscle-racking positions that have to be maintained in the class-rooms; to bad light, trying at once to the nerves and to sight, and the want of proper ventilation. No wonder that school children are pale, and often suffer from lack of appetite, loss of sleep, and headache.

Children with poor Appetites. There are some delicate, active, and highly nervous children, who always seem to be on the move and in a more or less constant state of excitement, and who though they eat well at breakfast have scarcely any appetite for the after meals. This failure of appetite during the middle and latter portions of the day, is really caused by the child nervously exhausting itself by continuing in a state of activity up to meal times. The blood has been diverted from the digestive organs and the juices are not properly secreted. Now, this failure of appetite may be easily prevented by making the too active child take complete rest for at least half an hour before each meal.

Disease and Errors in Diet. It is most important that all food be as pure and nutritious as possible, otherwise the child cannot enjoy that robust health which is caused by the circulation of good and pure blood.

It must be borne in mind, by a mother, that many disorders of the throat, mouth, and nose are really produced by some stomach trouble, the result of indigestion. Thus croup, canker-sore mouth, swollen tonsils, sore throat, collection of mucus at the back part of the throat and nose, may arise purely from disordered stomach. False croup which usually attacks a child *suddenly*, at night, is nearly always due to some error in diet during the day, or to some cold which has disturbed the digestion and stopped the action of the liver. There is nothing so likely to bring on a condition of catarrh of the nose and upper part of the throat and wind-pipe as improper diet. If a mother only knew how her child would have to suffer from being indulged in pastry, sweets, unripe fruit, and other improper articles of food, I am sure she would never so foolishly diet her children.

Dislike for Certain Foods. Parents should teach their children the necessity of eating proper kinds of food, and they should enforce obedience in making them eat whatever is set before them. Every child can, with a little

firmness, be taught to acquire a liking for milk puddings, milk, vegetables, meat in proper proportion, and fruit. If, however, a child shows a dislike to some essential article of diet, such as milk, it should be dealt with firmly but kindly, and a *little* of the distasteful article given to the child at a time, till it acquires a taste for it. If a large quantity is set before the child and it is commanded to take it all, the loathing to the food will be confirmed and no persuasion short of severe punishment will make the child take it. It is only a matter of tact, kindness, and firmness, which is required in dealing with children who are refractory as regards diet. But one must be firm, for a child must be taught to exercise self-control and to observe strict obedience in eating, as in other things. Be sure not to nauseate a child by sameness in food, and to have all food palatable and well cooked, and nicely served. A child requires as good a cook as an adult. Of course, if it be seen that a child has a very marked repugnance to some particular kind of food or drink, it would be cruel to force it to take what is evidently abhorrent to it—there is a *natural* dislike, and the dictates of nature should here be respected.

A child ought to be taught that

Over-Eating. indigestion is very apt to come on if it sits down tired and exhausted with exercise to a full meal. Food cannot be properly digested when the system is in no fit state to grapple with a full meal. What can be expected but indigestion, if the child tired and hungry, almost ravenous, sits down to a table covered with substantial food, and at once goes to work to overtax the already over-strained vital powers. No child should be permitted to eat very heartily when very tired. The wisest thing to do is to drink a small cup of hot water with three tea-spoonfuls of milk in it, sit down for five minutes, and then begin slowly to eat, masticating thoroughly. In a little while the vigour of the stomach will come back, and all will be well. If children were made to follow this course there would not be one case of indigestion where now there are a dozen. It seems to be the most difficult of

all things properly to control the appetite. It seems to be the master. It requires will-power to get it under control. When once mastered, something important has been accomplished in self-discipline. It is this self-discipline which children should be taught to practise.

Good household wheaten bread is an article

Bread. of the very first importance in the diet of children, especially if they are delicate and feeble, and when disposed to excessive irritability of the bladder. It contains, more nearly than any other substance in ordinary use, that proportion of nutritive matter, which is adapted to the perfect nutrition and vigour of the frame; and, therefore, we find that the health and strength can be more frequently sustained upon good household bread than upon any other article taken alone. Therefore, the separation of the bran from the flour by bolting, is a matter of luxury, and injurious to the nutritive quality of the bread. Good fresh butter, is always a useful addition, particularly to feeble children whose general vigour and temperature are so low as to render them chilly. I should strongly advise, therefore, that children should be fed with good household bread, having all the bran in it, to the exclusion of the common white bread. "In ancient times, down to the period of the Emperors, no bolted flour was known. In many parts of Germany, and especially in Westphalia, the entire meal, including the bran, is baked into brown bread; and there is no country where the digestive organs of the population are in a better condition."—*Liebig's Letters.*

Bread must always be light, if heavy it is indigestible. Bread must not be eaten until it is two days old. Never give a child new bread, muffins, crumpets, or new tea-cakes.

Bread can be made much more digestible by having diastase, in the form of Taka-diastase, added to it, in the

ALL THE SURGICAL APPLIANCES, &c., AND AYMARD'S MILK STERILIZERS mentioned in this book, can be obtained at very reasonable cost, from R. RAUSCHKE, Surgical Instrument Maker, 46, WOODHOUSE LANE, LEEDS.

proportion of five grains to a pound of flour, mixed with the dough, and by this method the soluble matter in ordinary bread is increased fifteen to forty per cent. This bread is superior to ordinary bread in every way, and makes a delicious toast. The toast powdered, and added to milk, makes a most excellent food for infants.*

There are certain substances which

Indigestibles. children should on no account be allowed to eat because of their indigestible nature—these are the husks, seeds, and stones of fruit, all hard dried fruits, the rinds of vegetables, and the gristle of meat. The juices of the stomach cannot dissolve these, and if they are swallowed they are apt to cause pain in the stomach, disturbed sleep, or may even set up convulsions.

As water should be the principal drink of

Water. a child, it is of great importance that it be quite *pure*. Good water has neither taste, smell, nor color. All water should be drawn and used fresh. It should be remembered that water if put to stand for a short time in a place where there is a foul smell will absorb it. Water which has stood all night, in an open jug, in a bedroom, is totally unfit for drinking. I should strongly, in every case, advise all water for drinking purposes to be filtered. Water which is suspected of containing drain or cesspool impurities, may be readily tested by adding to a tumblerful of the fresh drawn cold water, one drop of Condy's Pink Disinfecting Fluid, and stirring it into the water with a glass rod; afterwards put aside the tumbler of water, which will now have a slight mauve tint; and, if after standing for about four hours it still retains the mauve tint, it may be regarded as pure enough for drinking; but if it becomes of a yellow or dirty straw-like hue, this is proof that it contains foul matter, and is not safe for domestic use.

At six and a half to seven years of age

Second Teething. a child begins to cut the *second* set of teeth. These teeth, which are *permanent*, are formed under the first set of teeth, but

* Taka-diatase is prepared by Parke, Davis & Co

do not come into active use till the *temporary* teeth loosen and fall out. The permanent teeth are larger and stronger than the first set, and should be well looked after, and if good health is maintained last the whole of life.

There are sixteen permanent teeth in each jaw—thirty-two in all. Their order of appearance is as follows:—

Two central incisors of lower jaw	...	6th to 8th year
Two central incisors of upper jaw	...	7th to 8th year
Four lateral incisors	...	8th to 9th year
Four first bicuspids	...	9th to 10th year
Four canines	...	10th to 11th year
Four second bicuspids	...	12th to 13th year
These take the place of the first set of teeth; but certain new ones are also formed:—		
Four first molars	...	5th to 7th year
Four second molars	...	12th to 13th year
Four third molars	...	17th to 21st year
Sometimes the third molars are not cut till the 27th year.		

The process of cutting the second teeth is generally easy, as first one and then the other of the temporary teeth get loose and drop out, and under these are the permanent teeth which fill up the empty places. It is not often that the growth and appearance of the second set of teeth leads to much disturbance of the health, if the child's constitution is good. If, however, the child has been badly fed and ill-cared for during its early years, it is most probable that the second teething will be the cause of some ill-health in late childhood, and this particularly with the first and last sets.

A child should be taught from an early

Cleaning the Teeth. age to clean the teeth after each meal, and especially on rising and going to bed.

It should be remembered that good teeth conduce to good digestion, and in consequence, to long

life. With the appearance of the first tooth of the second set the tooth-brush should be used. This should be of the best make and with moderately hard bristles. It should be dipped in warm water, then rubbed on a cake of Castile Soap, and the teeth be well brushed up and down, from side to side, the backs as well as the fronts, and also the crowns of the teeth, and lastly the mouth should be rinsed well out with warm water in which a little salt has been dissolved. Of special preparations for cleaning the teeth I cannot say I have much faith in them—especially those containing camphor. Now, camphor though it makes the teeth look white, makes them brittle, and it should be avoided. The best tooth-powder is finely-powdered charcoal, and if the teeth show signs of decay, or the breath is offensive, it should be used in preference to the Castile Soap. A special preparation which I think highly of is Parke, Davis & Co's. Euthymol Tooth Paste, it prevents decay, strengthens the gums and sweetens the breath, and being pleasant to the taste makes an excellent dentifrice for children.

Whilst on this subject I would draw the attention of mothers and nurses to the absolute necessity of cleaning the teeth of very young children, morning and evening. This cleaning process must be begun with the appearance of the first milk tooth. I should not, however, recommend the tooth-brush here. The teeth may be cleaned by rubbing them with a piece of soft rag, dipped in warm water, a process which does not injure the tender gums.

If the milk teeth are taken care of, and are not allowed to decay or get broken, the second set of teeth will appear regularly, but not otherwise.

If tartar accumulates on the teeth don't have it scaled off, but first well brush the teeth with pure malt vinegar and water. A child's teeth should be examined by a dentist, twice a year.

**Washing
and Bathing
between
Three and Ten.**

A child has arrived at the age of three years; from then to the age of ten it is quite sufficient to give a full bath three times a week only. The temperature of the water should

not be less than 90 or more than 95 degrees Fahr. The bath should be given in the evening just before going to bed.

The process of washing the child is very similar to that adopted during infancy. The bath tub is filled with warm water, and the head having been wetted first, the child is put bodily into the tub up to the neck, then thoroughly soaped with a piece of soft flannel, and the washing terminated by douching well with a large sponge. It is necessary that the mother be particular always to use a perfectly bland and non-irritating soap, such as Barratt's Velvetine Soap. This soap has the further advantage of being slightly disinfectant, as it contains a little boracic acid. If the bath water be hard a table-spoonful of Barratt's Almond Meal, stirred up in it, will make it soft to the delicate skin. The child must not be kept in the tub longer than five minutes, and on being taken out it must be quickly but gently dried with warm towels. The skin, especially over the spine, must be finally gently rubbed with the palm of the hand so as to set up reaction. The bath must always be given in a warm room, and the child should be put to bed immediately the bathing is completed.

In addition to the three full baths a week, it is necessary, for cleanliness' sake, that the child be sponged every morning in luke-warm water (a temperature of 75 degrees in summer and 85 degrees in winter). No soap should be used except to the hands and face. The sponging should be done rapidly, and always in a warm room; and the process should be completed by vigorous friction with a coarse towel until the skin is in a glow.

Let it be remembered that it is ex-

Hardening. ceedingly unwise to try and harden a child, under ten years of age, by cold sponging or bathing. The temperature of a full bath should never be less than 90 degrees, and for sponging purposes should *always* be lukewarm. More children are killed or injured by this so-called hardening process than are benefited. Dr. F. H. Rankin very properly says:—"Early youth is not the period to attempt a

hardening process. A protest has already been entered against the hardening by scanty clothing, and now my protest is offered against hardening by cold baths. Some children will come through the process successfully, and be held up as examples of the benefits of cold water, but the many unsuccessful, who will fall under the observation of the physician, are lost sight of."—*Hygiene of Childhood*.

Remember that though a cold bath may exhaust a young child, too hot a bath will also have a depressing effect.

Never let a child stop in a bath too long. Ten minutes is ample time for a warm bath, and five minutes for a cool one. Staying in baths, either hot or cold, too long, results in an enfeebled condition of body.

Washing the Head. A child's head should be washed every morning, the water being of the temperature of that used for sponging—in fact, it is best to commence the morning sponging by washing the head first. After washing, the hair must be very carefully dried by rubbing it gently with a soft towel, and then brushing it out with a soft hair brush. Never comb a child's hair, especially with a fine tooth-comb. Combing pulls the hair out by the roots, makes the head scurfy, and scratches the delicate scalp; but brushing causes a healthy circulation in the skin of the scalp. This daily washing of the head not only prevents cold and strengthens the sight, but it tends to keep the hair in a healthy condition and encourages its vigorous growth. Children whose heads are regularly washed seldom have scurf.

Scurf. If there should be any tendency to scurfy accumulation, after the head has been well dried, a little glycerine might be well-rubbed into the roots of the hair for a few minutes, and then the hair gently brushed. Never put pomatum or any kind of grease on a child's hair. If the head be washed once a week with Velvetine Soap and water, and the other days be simply sponged, and the hair well dried and

brushed afterwards, it is seldom that any other application will be required to keep the hair, of either boy or girl, beautiful—water and brushing are the best hair restorers. I am certain that many a child's hair is ruined by the application of various kinds of pomades and patent preparations. The best scent for the hair is an occasionally dressing of soap and water (Velveteen Soap contains no hurtful scents).

Girl's Hair. Never tie a girl's hair up tight if you wish her, as a woman, to have a beautiful head of hair. It is best to let a girl's hair hang down her back.

Cold Water to Feet, etc. Sponge the feet of a child every morning with cold water, and follow this by brisk friction with a towel. It is a capital preventive of cold feet.

Never wash a child's feet in warm water. It is also a good thing to sponge the throat and shoulders with cold water every morning, it tends to ward off cold from the throat.

When to put in Tub. Never put a child in its tub when it is perspirifig *freely*; on the other hand don't put it in the tub when it is cold. In either case injury may be done, and some internal inflammation set up. The child's skin should be comfortably warm when it is put in the bath or is sponged.

If the child be delicate a little salt (either table or Tidman's) should be added to the sponging water in the morning.

Sea-Bathing. With regard to sea bathing I do not think that a child under thirteen should be allowed to bathe every day in the sea. It is only in the height of the summer that ocean-bathing should be allowed at all, and only then when the temperature of the water is over 70 degrees. Parents should be always on the watch, when at the sea-side, that their children do not wade or paddle too long in the sea. Such wading should not be allowed when

the water is cold. The heat of the sun on the head and shoulders and the cold water to the feet will sometimes bring on a sharp attack of illness, manifested by colic, disordered bowels, head-ache, and restless sleep.

Forcible Sea-Bathing. Never force a child into the sea against its will. I have seen, more than once at sea-side resorts, young children carried out into the sea and dipped below the waves, and brought back to shore convulsed with terror. All I can say is, that this is most cruel, and the fright neutralizes all possible good effects such as might have resulted if the child had gone into the sea voluntarily.

When to Bathe in the Sea. If a child is healthy and over thirteen years of age, sea-bathing in summer, about eleven in the morning, may be allowed, provided the water is not too cold, and the bathing is limited to two or three dips, and a sensible glow of the skin follows.

Washing after Ten. After the age of ten the child should be taught to wash itself. It should now have a cold sponge bath, every morning, on rising. In winter, however, the sponge bath should be taken in a warm room, and must be completed quickly. The whole body should be well soaped, then sponged down, and finally vigorously dried, first with a soft towel and then with a Turkish one. No loitering should take place over the bath for fear of a chill. A child of over ten, whether boy or girl, must wash the head every morning with cold water.

A full warm bath should be taken in addition to the above daily spongings, about once in a week or ten days. Such bath must be taken after the last meal and just before going to bed. The child must not stop in the warm bath longer than ten minutes, as warm baths are a little relaxing. It would be well on coming out of the bath to sponge rapidly down with lukewarm water. There must be no exposure to draughts after leaving the bath.

The most perfect of all exercises are those **Exercise.** in which the mind is exercised as well as the body. Cheerful play and amusing games ought therefore to be allowed and encouraged to both girls and boys; such as trundling hoops, flying kites, playing at ball, shuttle-cock, cricket, football (when played less violently), the skipping-rope, the swing, cycling, etc. These exercises call into play the muscles of both the arms and legs, and when not used immediately after a full meal, or to the extent of great fatigue, may be safely indulged in by almost all children, according to their age and capabilities.

It is absolutely necessary that every boy and girl have a certain amount of outdoor exercise daily. No child can be kept in a perfect state of health without this. Never scold a child, whether boy or girl, for giving free vent to all its energy in all outdoor sports. A child should be encouraged to run, climb, jump, and shout. These all tend to strengthen the muscles, expand the chest, improve the digestion, and give a good and healthy appetite. The lungs are made to act, the circulation is increased, the secretions of the skin are encouraged, and the waste materials are got rid of from the system. A child who is allowed plenty of outdoor exercise, and is suitably clothed for it rarely falls a victim to consumption or lung diseases.

Contracted Chest. A child should never be allowed to get a contracted chest. It can be guarded against by daily exercise of the arms and avoiding a stooping posture while sitting or walking. The clothing, too, should be loose and easy, so that there may be no compression of the walls of the chest.

Going out Warm. In walking abroad, a precaution of great consequence is, to take care that children go out for exercise when they are sufficiently warm to keep up the temperature of the surface, by the exertion of walking or running. It is injurious to take them out *cold*; because the cold and moist air then suddenly abstracts such a

proportion of the heat of the body as to induce an unnatural and painful state. When they go out, the body ought to be *warm*, that is, it should possess a superfluous quantity of heat, with which it may slowly part until exercise shall have promoted the general glow. Therefore take care that their hands and other parts of the body are warmed a little by the fire before they are sent out, and on their return, on no account let them run immediately to the fire; because such a sudden change will destroy the balance of the circulation, exhaust the living power of the skin, and produce cough, chilblains, &c. As children ought not to go out cold into a *cold* atmosphere, more especially if of a tender age, neither when they have been some time in a cold air should they be allowed to return suddenly to a *warm* one. Cold is not generally taken by passing from a warm to a cold atmosphere, but from a cold to a warm one. If children go out warm, even when perspiring, with plenty of warm clothing about them, no mischief will follow; but if they are detained till they become cold and chilly, and the system depressed, and then sent out, cold is taken instantly.

Exercise in Winter. It is a great mistake to keep children in the house during the winter for fear of their catching cold. A child who is well fed and well clothed seldom catches a cold when allowed plenty of freedom and motion of the limbs in the open air. Children should be accustomed to daily exercise in the open air in all weathers, unless, of course, it is very stormy or very wet, because cold, unless very severe, is a fine tonic to the system. Even a delicate child if not exposed too long will derive benefit from running about and playing in the open air on a cold day. If, however, there is a cold high wind, a weakly child should not be exposed to it too long, as it rapidly abstracts the animal heat from the body, and thus depresses the system. If, notwithstanding exercise a child cries from the cold when out of doors it should be at once brought into the house.

**Boys and Girls
should play
together.**

Boys and girls when young should be encouraged to play together and take the same sort and amount of exercise. Those exercises which are good for a young boy are equally so for a girl before puberty. It is a great mistake to discourage a girl from romping about with her brothers. Both brothers and sisters should be companions in all the sports and exercises of their early years. A girl will be all the better for plenty of physical exercise previous to the age of puberty. If she is allowed to play about boy-like and develop her frame during the period of childhood, the age of puberty will come upon her robbed of all its terrors, and she will grow up a fine healthy woman, fitted to be herself the mother of healthy children. Again, if girls join in boys' play it benefits the latter by forcing them to be more gentle and more chivalrous, and the girls are benefitted because they get that amount of exercise which is demanded by their rapidly developing frames. I, therefore, very strongly advocate not only the education of boys and girls *together* but also their mixture in the playground *together*.

Inactive Life. Let parents bear in mind that an inactive, indoor life for the young lowers the vitality, retards the full development of the muscles, induces a softness and delicacy of all the tissues, and lessens the power of resisting cold and diseases of all kinds.

**Too much
School.** I do not think a child should be put to study before it is six years of age, and from that to ten the hours for school or lessons should not exceed three. The rest of the time should be spent in play, meals and sleep. It is folly to cultivate the brain at the expense of the body; every boy and girl must have plenty of play: learning later on will be better taken up for it.

**Cold Ground
and Drinks.** A child must be cautioned about the danger of sitting or lying on the cold, damp ground, or of sitting on cold stones when overheated, or of sitting

in a draught to cool. Never should a child be allowed to drink anything cold when heated.

In playing with a child never lift it from the ground by pressing the hands against the ears. This is a most dangerous thing to do.

Danger of lifting by the Head, etc. The joint between the head and neck may easily be broken, and sudden death occur. Don't swing a young child by the arms, there is risk of dislocating the shoulder joint.

Children from ten years of age and Growing Pains. upwards will sometimes suffer from aching pains in the legs, arms, and neck, and as these pains are looked upon by parents as of little consequence, being thought only to be "growing pains" to which all growing children are more or less liable, I think it is advisable here to call attention to their true character. These pains are by no means a necessary accompaniment of healthy childhood; they arise from muscular fatigue or from overstrain of the ligaments and joints, brought about by too much exertion; and they may also be induced by cold and damp--a kind of rheumatism. Delicate children of sedentary habits are those who suffer mostly from so-called "growing pains." Now, such children should not be urged to overtax their strength by too violent or prolonged exertion--their romping and playing should be limited. Again, children need all-wool underclothing to protect from colds, and on the least appearance of the pains warmer clothing must be provided. If the pains are severe rubbing the affected parts with Compound Camphor Liniment will give relief.

Sunshine. As long as a child's head and the back of its neck are protected from the direct rays, exposure to the sun will benefit the child immensely. Every opportunity should be seized to let children be in sunlight, it is as essential to their health as it is to plants. A sunbeam is a small thing, yet it has power to fade the carpets and curtains, and to rot the blinds; and for this reason some people carefully

exclude the sunshine. What is the result? The children are always ailing; the young girls have a waxen white skin, and a weary, pinched expression of countenance. Their appetites fail; they fall into such a bad state of health that the doctor is called in. In olden days he would have shaken his head, perhaps, and whispered to anxious friends "decline"! Now-a-days he notes the pale gums and waxen skin, and says "anaemia" (poor blood); he prescribes iron and milk, fresh air and exercise, and often a change. If he knows nothing about the rooms from which the sunlight is carefully excluded, he will be puzzled as to why no permanent improvement manifests itself, and possibly other advise will be sought for the patient.

Children should have for their play-room the brightest and sunniest room in the house, and in addition should be out of doors in the sun as much as possible. Children who live in rooms devoid of sunlight are never well, they are fretful and irritable, while those who inhabit sunny bright rooms are healthy, full of life and laughter.

Parents, bear this in mind, that in order to keep children well, they should have (according to their strength) an abundance of out-door exercise. Make them regular in their habits; feed them on plain and nourishing food, and they will seldom complain of lack of appetite.

Of all exercises, cycling, when indulged in reasonably and rationally, is the best. **Cycling for Children.** From a health point of view it is equally beneficial to the child as well as to the adult, but, with this difference, the child should not try to emulate the feats of its senior.

Some parents are strongly averse to their children—especially if they are girls—cycling. They have been led to look upon this form of exercise as injurious to the health and proper growth of the child, and have been induced to imagine all kinds of evils as the result, and I must say that this prejudice has to a certain extent been fostered by certain doctors who had little personal

knowledge of cycling. Again some children have undoubtedly injured themselves by being permitted to overtax their strength by riding too long distances, and this has consequently excited some prejudice against the exercise for children. But I am ready to affirm that with proper precautions and watchful supervision, there is no form of exercise for both boys and girls comparable to cycling.

Now, if the child is in sound health, and is *over* six years of age, cycling exercise in moderation is extremely beneficial, not only stimulating the growth of the body but calling into activity the muscular tissues. The exercise also expands the chest, draws more oxygen into the lungs, improves the quality of the blood, and gives tone to the nervous system; it trains the senses to alertness, and invigorates the mind as well as the body.

If a boy or a girl is to obtain the greatest health advantages from cycling, the bicycle must be very carefully selected, and it must, in *every case*, be adjusted to the size and strength of the rider. As much care must be taken in purchasing a bicycle for a child as in fitting it with a suit of clothes. A bicycle which does for a child of seven is utterly unsuited for one of ten, and vice versa.

There are certain points to be borne in mind if a child is to cycle with benefit. The saddle must be placed at that elevation that the pedals can be reached without over straining on the one hand or being in a cramped position on the other; both handle-bar and saddle must be so adjusted—the former sufficiently high, and the latter sufficiently forward—that the rider can sit up straight and not contract round shoulders, or assume the very injurious “monkey-on-the-stick” attitude; the saddle above all things must be very carefully selected, so that there may be no injurious pressure on the delicate soft parts, the springs of the saddle too should be adjusted to the weight of the child; and the machine must not be too highly geared, otherwise the rider will expend more energy than can be safely afforded.

I am of opinion that a "back-rest" which can be easily put up and down is of service on children's machines, especially for girls. It encourages the habit of sitting upright when riding, besides giving more power in driving the machine with less fatigue. The best form of back-rest, now in the market, is the "Paraclete," which serves the double purpose of mud-guard and back-rest, and can be changed from the one to the other in a second.

A young boy or girl must on no account be allowed to ride too long a distance, never to the point of over fatigue. The young should be cautioned against straining up stiff hills, thus throwing extra work on the heart. When heated nothing cold must be drunk. All wool clothing of a porous nature must be worn. The head and neck must be protected from the direct rays of the sun. Don't allow cycling, or in fact, any out-door exercise, on an empty stomach, or immediately after a full meal. Teach a child when cycling to keep the mouth shut and to practice breathing through the nose.

With all the above precautions, and with proper supervision, cycling will prove one of the most health-giving of exercises for the young. I hope to see the day when every boy and girl will possess his or her bicycle.

It is a cruel thing for a father to take a **Babies on Bicycles.** baby or very young child out for an airing, strapped in a seat attached to the front of his bicycle. In this position the child gets a lot of vibration which is bad for its nervous system, but worst of all, in case of an accident it is almost impossible for the baby to escape injury or death. This practice should be made a punishable offence especially when practised in the streets of towns.

Every child should be taught singing on **Singing.** a proper system, such as that introduced by Prof. Darawschi. This method is of great value for weak chested children, as the lungs are expanded without throat strain. Singing is an extremely valuable exercise for the lungs and chest, when the voice is scientifically trained.

Clothing. If a mother wishes to keep her child in vigorous health, she must during the whole period of childhood see that it is warmly and suitably clothed, according to the season of the year and the condition of the weather. Warm clothing is absolutely essential during the times of active growth.

Naked Arms and Legs. I must vigorously protest against the practice of letting young children run about, either in-doors or out, with the legs and arms bare. This is simply courting cold, disease, and death. The feet, ankles, wrists, and stomach, as well as the arms, legs, and chest of a child require to be specially protected from cold. It should be certainly seen to that the child's whole body is thoroughly protected.

All-Wool Clothing. The clothing should be all-wool but of a porous character, as when woollen garments are worn next to the skin, the body is less susceptible to sudden atmospheric changes, and the heat of the body is not carried off so rapidly as when linen or cotton is worn. These latter should never form part of the clothing of young children—wool alone should be used.

All-wool long stockings should be worn throughout the year. In fact every part of the body from the neck to the feet and from the shoulders to the wrists must have suitable wool covering. It must be borne in mind that the whole body requires to be *uniformly* clothed, the body and chest require no more clothing than the arms and legs—in fact one part should be as warmly clad as another. In this way uniformity of circulation is maintained, and one part is no more likely to be chilled than another.

Cold Feet and Hands. Always see that a child's feet, arms, and hands are kept warm. More coughs and colds are contracted from cold hands and feet than mothers imagine. In winter woollen wristlets should be worn, both in-doors and out, during the entire day. They should fit closely, but not too tightly.

The soles and heels of boots and shoes should be thick enough to protect the feet from cold and keep out wet. Children require the feet to be well protected. A child should be taught the importance of changing shoes and stockings when in the least damp. Many mothers think that feet wet with sea water will do no harm. This is a mistake, a cold can be contracted just as well from keeping on boots and stockings damp with sea water as with fresh water. This should be remembered when at the sea-side. Boots and shoes must be made to fit comfortably to the feet, so that the toes may have plenty of room to expand naturally. Don't ruin a child's feet for after life, and bring on corns, by ill-fitting or ill-made boots.

Never let a child wear garters, they are injurious by interfering with the circulation in the legs.

All clothing should be loose so that none of the organs of the body may be constricted. Tight belts, hats, stays, or strings, must be avoided. All hats and caps should be porous so that the perspiration from the head may escape.

Always insist upon a boy wearing his overcoat in winter when out of doors. Many colds are contracted by neglecting this rule. Girls should be equally well clad during the cold months.

Mackintoshes must never be worn by children. They confine the moisture given off from the skin, and cause the under-clothing to become damp, and there is great risk of chilling and consequent cold.

Girls must never be allowed to tight-lace. This foolish and dangerous practice prevents the lungs, liver, stomach, and upper bowel from properly performing their duties, and lays the foundation in early womanhood of many serious troubles. The skirts and under-garments of girls must be supported by shoulder straps, so as to avoid all pressure about the abdomen. A girl's garments should never be kept in place by tight bands about her waist.

See for cleanliness' sake that a child's under-

clothing is changed twice a week. When clothing is taken off at night it should be hung up exposed to the air, not folded up and laid on a chair, as is usually done.

A child's night-gown should always be made of soft porous all-wool materials. This prevents it taking cold in case it becomes partially uncovered during the night. Flannelette night-gowns, it should be remembered, are very inflammable, and several serious burning accidents have occurred to children from this material coming in contact with a flame.

Bed-clothes. Light and porous bed-clothes are the best. They ought to be sufficiently warm, yet not too heavy, lest they prove oppressive, and they should always be porous, as the blanket is, so that the skin may be assisted to discharge its exudations completely. Thick, heavy counterpanes check the insensible perspiration, and being extremely injurious, especially for children, should never be employed.

Sleep. Plenty of sleep is necessary during childhood. A child of seven years of age should always be in bed by seven o'clock, and should have at least eleven or twelve hours of sleep. From seven up to the age of fourteen or fifteen, ten hours sleep is requisite. A child who has too little sleep is usually dull, irritable, restless, and disinclined to play. I must protest against the folly of children having school lessons to prepare in an evening which excite undue brain activity, and prevent that sound, quiet sleep which is so essential in early youth. A child who has plenty of sleep is better able to resist illness.

Bed-room. The temperature of a child's bed-room should be kept as near as possible at 60 degrees Fahr. I do not advocate a child sleeping in a cold bed-room in the winter. A fire should be kept burning during the whole night in cold weather. The bedroom should be well ventilated yet without draught.

The best way to do this is to raise the lower sash of the window three inches, and to exactly fix a piece of wood into the vacant space at the bottom. This causes the air to pass in an upward direction into the room between the upper and lower sash, and thus no draught is felt. If possible a child's bed-room should be so situated that plenty of sun comes into it during the day. There is nothing like sunlight in a room to sweeten it. When the child leaves the room in the morning, the bed-clothes should be thrown to the foot of the bed so as to be exposed thoroughly to the air, and the window should be thrown wide open and kept so most of the day, so as to well ventilate the room and carry off all the exhalations of the night. Gas should never be kept lighted all night in a child's room. If a light is required a night-light is the best.

The bed is better without curtains, these, while they protect, prevent the access of fresh air, and it is far better to ward off a draught by a movable, folding screen.

Every child should have its own bed. Never let a child sleep with an adult, and on no account in the same room with a sick person.

CHAPTER XIII.

Common Accidents and Ailments of Children.— Their Treatment.

Bruises. If a child receives a blow, causing a contusion or bruise, prompt treatment is necessary if one wishes to prevent the formation of a black and blue mark, and to relieve pain and prevent swelling. Compresses wrung out of water as hot as can be borne and frequently renewed, are the

best immediate remedy. Afterwards the affected part should be bathed at short intervals with the following lotion :—

Take of Hazaline..... 2 ounces.

„ Water 6 ounces.

Make a lotion. Bathe the part frequently by means of a soft piece of linen rag; and, between times, let a piece of linen rag, wetted in the lotion, be applied to the bruised part, and fastened in its place by means of a bandage.

This lotion is a capital remedy for a "black eye," which should be previously bathed either with hot or very cold water. I may here remark that both hot and cold water act exactly in the same manner upon the blood vessels, contracting them and so preventing blood being poured out, which blood produces the black or blue discolouration. Therefore, in the absence of hot water (which is the best remedy) cold may be used.

The rubbing of fresh butter or olive oil on the bruised part every few minutes for a couple of hours, is an excellent remedy. Buttering the parts round the eye *immediately* after a blow over that organ will often prevent the appearance of a "black eye." The butter should be rubbed in at frequent intervals to get a good result.

A bruise upon the head which causes the child to turn pale and to vomit should on no account be neglected. Convulsions may follow. A doctor should be called in. Meanwhile apply cold water compresses.

If the skin is grazed, wash it first with **Grazed Skin.** warm water, gently dry, and apply a piece of lint or soft linen rag covered with vaseline or spermaceti ointment, which may be changed twice a day. Do not put plaster on as is sometimes recommended.

Blow on the Head. A child is stunned or rendered unconscious by a blow on the head or by a fall. Prompt measures should be adopted. The child must be laid on its back and

cold water sprinkled on its face, the clothing about the neck must be loosened, and the windows must be opened to admit fresh air, and people should be prevented from crowding round the child. Brandy or other stimulants must not be given without a doctor's orders. A little hot milk is the best as soon as the child can swallow or some hot coffee.

If it is a knife cut and there is no glass or **Cut** dirt in the wound, the best thing to do is to **Finger.** dip a strip of soft clean linen rag in cold water and wrap it round the finger. The dressing need not be renewed for two or three days, but should be damped frequently from the outside with cold water. A cut so treated will generally heal in a short time without trouble.

Never use sticking plaster except to bind up a gaping wound, and thus draw the two sides together by what is called "strapping," namely, laying straps of plaster across the opening at intervals. For a cut finger a cold water application is better and more quickly healing than plaster. It will always be found that a plaster-covered sore becomes tender and painful, and—as it is called—festers. The pus or matter which always collects when a wound occurs will produce inflammation if not allowed to find its way out. Therefore if it is corked up into the wound by a piece of plaster it naturally causes mischief. With some people the gummy side of the plaster will help matter to form, but its chief evil is the boxing up the matter that ought to have free access from it. When a gaping wound is strapped across to bring the lips of it together, the intervals or openings are left for this purpose.

If glass or dirt be in the wound, it must be sponged out in warm water, before the cold water dressing be applied.

If there be *much* bleeding from the cut it may generally be moderated by sponging freely with cold water or by applying a little Tincture of Steel to the part. Of all blood-stopping applications, however, I

know nothing to equal Ruspini's Styptic, a bottle of which should be kept in every house.

With regard to large cuts, after washing all dirt away, the edges should be pressed together and fixed in this position by applying a number of narrow strips of adhesive plaster at short intervals across the wound, covering all with a cold water application.

Arterial and Venous Bleeding. The mother ought to be able to distinguish the difference between blood flowing from an artery or from a vein. Now, blood from an artery is scarlet in colour, and flows in jets as though

pumped out at intervals; blood from a vein is of a purple colour, and flows in a continuous stream. To stop bleeding from an artery pressure must be made on it *above* the cut; if the bleeding is from a vein the pressure must be made *below* it. The reason for this is, in the former case the blood is coming *from* the heart, and in the latter is returning *to* it.

Burns and Scalds. No matter how extensive the burn or scald may be there is nothing comes up to *dry flour* as an immediate application.

The flour must be dredged on to the part *thickly* so as thoroughly to exclude the air, and it must be kept on with strips of old linen or with a bandage. It should be borne in mind that the burn penetrates deeper the longer it is exposed to the air, and therefore the sooner the flour is applied the less local and constitutional mischief will result. The flour relieves the pain sooner than anything and causes quick healing of the surface.

If there should be much pain from the burn or scald Carbonate of Soda will relieve it. Some of this should be dissolved in warm water, and soft linen rag should be dipped in the solution and applied to the affected part. The water should have as much soda in it as it will dissolve. Cotton wool dressing should then be applied so as to cover the injured part and protect it from the air. A solution of Picric acid in warm water is also a wonder-

fully efficacious remedy for the relief of pain in extensive burns.

Nothing cold, either in the form of water or lotions should be applied to a burn. The cold may for the moment relieve pain, but it increases it afterwards, and may even be the means of making a non-dangerous burn into a dangerous one.

It should be remembered that as a rule a burn is more serious than a scald. There is always much danger if a child is burnt or scalded on the abdomen or chest. A burn which to a baby or very young child would be fatal may not be so to an older child. Extensive burns of the surface are always more or less serious. It is advisable in every case where there is a large burn to have medical attendance without delay.

Always keep a tea-kettle containing boiling water out of the reach of a young child. I have known a child drink boiling water from the spout of the kettle with fatal result. Again the kettle may easily be pulled over by a mischievous child, and an extensive and dangerous scalding of the chest take place.

If a child falls into a tub of scalding water, it must be removed immediately and undressed. The clothes must be taken off in as gentle a manner as possible so that blisters may *not be broken*. If the clothes stick anywhere to the skin, they must be cut away piece-meal, and no attempt must be made to tear off the adherent portion of clothing which should always be left untouched. Next put the child to bed, dust thickly with dry flour and cover with a thick layer of cotton wool. After doing this send for a doctor. Should the child complain of faintness, give a tea-spoonful of whiskey in a little hot water.

If a child's clothes catch fire it must be at once seized hold of, laid on the floor, and instantly wrapped round with a rug, blanket, coat, or any woollen garment which may be at hand, and then rolled over and over several times. An upright position encourages the upward spread of the flames, and running fans the flame into activity.

Never let a young child play with fire. Where there are children *always* have fire-guards before the grates. Never leave a paraffin lamp lighted within reach of a child. A child should not be left alone in the house if there is an unprotected fire grate.

Children's pinafores and dresses can be made fire-proof, without injuring the material, by soaking them for a short time immediately after washing in a solution of Tungstate of Soda, and then drying.

If the face is burnt paint it well with olive oil with a feather or camel-hair brush.

Don't prick the blister produced by a scald to let out the fluid, without first asking the doctor's advice. The breaking of the skin of the blister exposes to the air the raw surface underneath.

Don't let a child play with these. It **Lucifer Matches.** may either poison itself by sucking the phosphorus ends, or set itself on fire by striking a light. Lucifer matches should always be kept out of a child's way. If signs of phosphorus poisoning are shown from match sucking give milk to drink freely, or administer half an ounce of Carbonate of Magnesia in a tumbler of water. Forty drops of turpentine every quarter of an hour for one hour, and afterwards three times a day is a capital antidote in severe cases of phosphorus poisoning.

If a child be stung by either of **Sting of Wasp or Bee.** these insects and the sting is left behind, it can be extracted by pressing firmly the hollow of a small key immediately over the part. This squeezes it out. Then apply a little Sal Volatile or Eau de Cologne to the part or dust it with the blue-bag (which is used in washing). If there should be much pain or inflammation send to the chemist and get a little Iclthyol and apply it pure in a pretty thick layer. This is a capital application in all cases of stings of flies, gnats, bees, and wasps.

Nettle Stings. Dust dry flour on the part if there is nothing else handy, or bathe with Eau de Cologne, or apply cream. The Ichthyl application mentioned above will quickly relieve pain and stinging and reduce swelling.

Dog and Cat Bites. If a child is bitten by a dog or cat it is always advisable for safety's sake to burn the wound out by dropping into it one or two drops of fuming Nitric Acid. The slough which is formed by this soon separates, and leaves a clean wound, which readily heals. The wound may be dressed with a little spermaceti ointment. Nitrate of Silver or Lunar Caustic is of very little use in bites as it drives the saliva deeper into the tissues.

Cat scratches should be rubbed with fresh butter at intervals or with olive oil. If painful a little Ichthyl may be smeared over the scratched part.

Never have a dog or cat which has bitten a child killed immediately. It should be kept alive and watched to see whether mad or not. If symptoms of madness do not develop in a few days and the animal remains well, all fear of hydrophobia should be dismissed from the mind.

If a dog bites a child and the dog is not mad at the time, the child cannot possibly have hydrophobia, even if the dog goes mad at some remote date afterwards. I mention this to explode a silly superstition.

It is not wise to let dogs and cats lick children, especially on the lips. Do not let dogs or cats sleep with a child.

Sprains. If knee or ankle be sprained, absolute rest in bed is essential. Hot water dressings must be frequently applied until pain and swelling have diminished, and then compresses soaked with a lotion consisting of half Hazaline and half cold water. For sprained wrist, cold water should be run on it from the tap every morning for some minutes, holding the wrist as far beneath the mouth of the tap as possible. After this, bandage the wrist tightly, letting the bandage remain till the next ablution.

The arm should be kept in a sling so as to rest the sprained joint. Any stiffness remaining in a joint may be removed by rubbing with Compound Camphor Liniment.

Never attempt to *set* a broken bone

Fractures. or permanent deformity may result. Lift the child very carefully from the spot

where the accident happened and carry straight to bed, taking care that another person supports the fractured limb and does not allow it to dangle loosely. When the child is in bed the limb should be laid on a soft, broad pillow, which must be doubled round it and tied up tightly so as to protect from shaking. The surgeon will do the rest.

In preparing the bed for a child with broken leg, a firm, but not too hard mattress should be arranged, and over this should be spread two or three blankets.

If a rib is broken, put a broad roll of flannel or linen round the chest, and let the child sit up till the surgeon comes.

When a collar-bone is broken, tie the arm to the side, with a large pad in the arm-pit, till the surgeon arrives.

Bathe the eye for half-an-hour with

Quick-Lime vinegar and water. One part vinegar in Eye. to three parts water. Then bathe for another half-hour with simple warm

water, and lastly drop into the eye a couple of drops of the best olive oil. A green shade should be worn over the eye for two or three days. Remember if the lime is not quickly dissolved the eye will be burnt, and damage to the sight result.

If any small foreign substance has

Substance blown into the eye, such as sand, dust, or in Eye. grit, it can generally be removed by

means of a small camel-hair brush, the lower lid being held down in the meantime with the first finger of the left hand. The brush swept gently over the eyeball or beneath the upper lid will generally detach the offending substance. Then bathe the eye well with warm milk and water.

Choking. In cases of choking no time must be lost, or the child may be suffocated. The best and most rapid method of dislodging a substance stuck in the throat is *at once* to seize the child by its heels and give it a good shaking head downwards. A good slap over the shoulders will often prevent choking. Tickling the throat with the finger to excite vomiting will also cause dislodgment of the substance stuck there.

Substance in Nose or Ear. A child is very apt to push a pea, bead, or cherry-stone into its nose or ear. Hence the folly of allowing children to play with these articles.

If a pea has been pushed up the nose, the moisture there will cause it to swell, and as it will be difficult to extract, a surgeon had better be called in. A small body like a button or bead, if it has not been pushed too far up the nose, may often be removed by closing the opposite nostril, and causing the child to blow the nose violently. A small hard body poked into the ear may often be dislodged in a very simple manner; the child should be made to lean the head toward the affected side, and told to open the mouth widely, then the external ear should be pulled gently upward and backward. This widely opens the canal of the ear and stretches it, and the substance if not too large often drops out. If an insect, such as an ear-wig, gets into the ear, fill up the canal of the ear with fresh olive oil. This will float the insect out of the ear.

Swallowing of Pins, Glass, Coins, etc. If a child swallows a piece of broken glass or a pin, feed it on stiff hasty pudding made of flour and milk, and give no purgatives. If a coin is swallowed and passes into the

stomach, feed as before with the flour pudding and give one or two doses of castor oil. If a small coin like a threepenny-piece goes into the wind-pipe, hold the child up by the legs with the head down, and slap well with the palm of the hand on the back, and the coin will often be coughed out of the mouth. If this method does not succeed, send for a doctor.

Bleeding from Nose. A piece of ice wrapped in flannel, or a piece of cold stone, marble or glass, applied to the forehead or back of the neck will usually stop obstinate nose-bleeding. Placing the feet and legs in hot mustard and water is another successful method. Again, placing the child on a bed with the shoulders well raised, and pressing with the finger and thumb on the root of the nose, just between the eyes, will frequently stop the bleeding.

Poisoning. If a child swallows any poisonous substance, an emetic should in most cases be administered. The best and most handy emetic is made by mixing two tea-spoonfuls of mustard in half a tea-cupful of warm water, and forcing it down the child's throat. If the poison is any preparation of *opium*, such as *laudanum*, *paregoric*, etc., after the emetic, strong coffee should be administered, and the child should be kept walking about till the doctor comes. If the berries of *Deadly Nightshade* (*Belladonna*) have been eaten, give the emetic as above, followed by hot coffee, and sponge the head and face over a wash-hand basin with cold water for a couple of hours. The water should be made to stream from a height. If by any chance *nitric*, *sulphuric*, or *hydrochloric acid* be swallowed, mix some whiting, chalk, or plaster with water and give freely. *Do not give an emetic.* In poisoning by *carbolic acid*, give milk freely, or shake up a quarter of a pint of olive oil in a pint of water, and make the child drink it. Do not give emetics. *Poisonous Toad-stools*—give emetic, followed by one ounce of castor oil. *Vermin Killer*, which contains *strychnine*, requires immediate emetic, followed by ten grains of Hydrate of Chloral every ten minutes till the doctor comes.

It is needless to say that it is almost criminal for mothers or nurses to leave poisons in the way of children, and I strongly object to the use of poisonous disinfectants like carbolic acid in a house where children are. If disinfectants are required the *non-poisonous* ones should be employed, such as Euthymol, Izal, Condy's Fluid, and Sanitas.

Use of the Thermometer. Every mother should possess a *clinical thermometer*, as by means of this useful little instrument she may be warned in time when danger is threatening her child. In inflammation and fevers the temperature of the body always rises, and it is by taking prompt notice of this rise of temperature that disease may be cut short, or serious symptoms averted. One can never accurately judge of body temperature by just feeling with the hand, but a good thermometer will tell to a fraction of a degree what the real heat of the body is. Now the natural heat of the body is $98\frac{1}{2}$ degrees Fahr., and if the temperature rises to 100 degrees and upward, the mother may be sure that the child is ill. It is always advisable where there is a high temperature to send for a doctor at once. When taking the temperature the bulb of the thermometer should be placed under one armpit, and the arm should be crossed over the chest, leaving the instrument in that position for about four minutes, when it is to be withdrawn and the temperature read off from the top of the index. The doctor in a minute will teach the mother how to use a clinical thermometer.

In *measles* the temperature rises quickly and often to 103 or 104 degrees, even *before* the eruption on the skin appears. Afterwards, as fever is declining, the temperature falls quickly. In *small-pox* there is a rapid rise which falls when the eruption comes out, but when the eruption has reached that stage in which the pustules are filled with matter (the suppurative stage) the temperature rises again. Usually the temperature in *small-pox* is high. It varies considerably in the course of the day. In *scarlatina* temperature rises more slowly, and does not usually attain a very high rate, and it continues fairly uniform after the eruption comes out. In *typhus fever* there is a slow rise, and mostly a uniform temperature as long as the fever lasts. Supposing now a child has an inflammatory attack of some kind, and the temperature *suddenly* rises to a great height, this may indicate blood-poisoning, and if after this the temperature *suddenly* drops it would point to exhaustion.

and failure of the vital powers. Whenever the temperature drops to 97 degrees in children there is danger, and for every degree of reduction below this point the risk for life is more than proportionately increased.

The best thing to do is to put the child **Fevers.** at once to bed in a well ventilated room, with a little fire, and to give the following medicine till the doctor comes:—

Take of Tincture of Aconite, 16 drops.

Water - - - - 2 ounces.

One teaspoonful to be taken every half-hour. If the temperature falls, the medicine should be discontinued or given less frequently. Diet should be essentially milk. Don't stint a child in fever of pure water, the system demands it. For *head-ache* a cold wet compress should be placed on the forehead, renewed at frequent intervals. If the doctor pronounces the fever to be *contagious* the patient must be entirely isolated from the rest of the family, and all bed-hangings, curtains, and carpets should be removed from the room. Never allow milk or food which have been in a fever-room to be partaken of by other members of the family. Ensure free ventilation in the sick room without direct draught on the patient. Take the patient's temperature several times in the twenty-four hours, and in any case always night and morning. A mother must not attempt to treat a contagious fever herself, there must be skilled advice, as so many complications are apt to arise in fevers which want promptly meeting. In *scarlatina*, and in *measles*, the child, however well it gets on, must be kept in the house for a full six weeks, as until all its skin has come off, there is risk of cold to itself and great risk of infection to others. It must be remembered that most fevers commence much in the same way, namely: with heat of skin, lassitude, loss of appetite and thirst. When these symptoms are present a mother must be on her guard and act promptly.

In this affection the best remedy is a **Croup.** tea-spoonful of Ipecacuanha Wine in another of hot water every five minutes until there is free vomiting. Have ready a hot bath, as warm as

the child can bear it, and immerse the child in it for ten minutes, keeping up the temperature by adding more and more hot water. Hold a sponge dipped in hot water to the throat as well. Send for the doctor.

Diphtheria. Give a quarter of a grain of Sulphide of Calcium in a tea-spoonful of sweetened water every half-hour. Paint the throat with a mixture of tannin and glycerine. Give plenty of support frequently. Lemons may be sucked freely.

Hooping-Cough. The following remedy will be found of great service in most stages of hooping-cough:—

Take of—Cochineal 20 grains.

Boiling Water 8 ounces.

Mix and give a tea-spoonful three or four times a day.

Antipyrine given in half to one grain doses every three hours, is an excellent remedy where the attacks of cough are violent and frequent.

A tea-spoonful of Cod-liver Oil should be given three times a day on a full stomach. If possible change of air to the sea-side, or to a high, dry locality—moor or mountain—will work a charm.

A Chill. Put the child to bed after giving it a warm bath; put a mustard plaster over the region of the heart and administer milk as hot as can be taken, in small quantities and at short intervals.

Mumps. This affection is in most cases an infectious one. There is usually much pain from the inflammation and swelling of the salivary glands. The Aconite mixture mentioned under the head of Fevers should be administered as long as there is fever. Pain may be relieved by giving a grain or two of phenacetin three or four times daily. Light compresses wrung out of hot decoction of poppyheads should be kept constantly applied to the inflamed parts, and frequently renewed. Milk diet is the best along with Meat Extracts. All fluids should be given warm. A child suffering from mumps must on no account be allowed to go to school or mix with other children till all symptoms have subsided—the disease being infectious.

CONTENTS.

PAGE	PAGE	PAGE	
Ablution, during first three years	23, 30	Breast Milk, in new born baby and treatment for.....	13
Accidents and Ailments of Children—		Breast Milk, mixng of	52
their treatment	174	Breast, putting the baby to.....	11, 12
Ailments of Infancy.....	106	Breasts, Swelling of Infants	109
Air and Exercise for the Infant.....	37	Brian's Heart Tonic	20, 21
Alcoholic Stimulants.....	17	Bronchitis	139
Amusements for Children.....	164	Broths.....	80
Ankles, Weak	115	, 3 to 10 years	159
Aperients for New-born baby	14 112	Brown Sugar, an aperient	69
, for Infants and Children	124	Bruises	174
" bow to render them unnecessary	124	Burns,	177
Arms and Legs, Naked	171	Butter	82
Artificial Respiration.....	2	Caps.....	32
Do. Schultz's Method	2	Carrying an Infant	38, 41
Do. Sylvester's Method	3	Castor Oil	45
Do. Marshall Hall's Method	3	Cats, bites of	180
Artificial Food, for new born baby	12	Chairs	26
Artificial Light	47	Chafing	112
Artificial Feeding, Method of	57, 58, 62	Change of Air	94
Asses' Milk	65	Cheese Poison in Milk	67
Aymard's Patent Milk Sterilizer	17, 68, 69	Childhood	140
 <i>Baby, Management of, after birth</i>	<i>1</i>	Chill	186
Bacon	145	Choking	182
Barley, patent	72	Cholera	131
Bath, when to be put in	162	Cleanliness of Habit	34
Bath, water, temperature, time for, apron, chair &c	24, 25, 26, 27	Cleft Palate	110
Bathing, time for	27	Clothing, for baby	10
Bed, Baby's and Bed Clothing	49, 50	, and Young Children	31, 36
Bed Clothes	173	Clothing, all wool	171
Bed Room	173	Clothing, protection from cold, too heavy clothes, underclothing, pins, caps, under napkins, cleanliness, list of clothing, shortening, shoes	31, 36, 171
Bed Room, temperature of Cbld's	173		
Beef	142, 144, 147	Coffee and Tea	149
Belly-band to make and how to use	7, 32	Cold Drinks	166
Bicycles, Babes on	170	Cold Feet and Hands	171
Birth	1	Cold Ground	166
Birth, first attentions after	1	Cold and Coughs	138
Bites of Cat and Dog	180	Cold Water whilst Teething	93
Bleeding, stopping	115	Colic, Flatulent	99
Bleeding—Arterial and Venous	177	Colostrum	11, 13, 14
Bleeding from Nose	183	Composing Medicines, must never be used	45
Bolls	99	Conception and Suckling	57, 85
Boots	172	Condiments	147
Bow-legs	41 42	Constipation	124
Bowels, new born baby's, general treatment	13, 14	Contracted Chest	164
Bread	156	Convulsions	121
Breast, Abscess of	17, 19	Convulsions during Teething	92
Breast, gathered	12	Cow's Milk	65

PAGE	PAGE		
Crawling	43	Food, change of	80
Creeping.....	41	Food Preparing	79
Croup	185	Fractures	181
Crying	53, 54	Fruit and Jam	145
Curtains for Cots, not be used	48	Fuller's Earth	6, 28, 30
Cut Finger.....	176	Garters.....	35
Cycling for Children	168	Germs, effects of, in Milk.....	66
Diarrhoea	131	Goat's Milk	65
Diarrhoea and Purging	131	Gripings	129
Diet, 6 to 12 months.....	80	Groin, rupture of	107
" 12 to 18	81	Growing Children	145
" 18 to 30	81	Growing Pains.....	167
" During Teething	95	Gruel, not to be given to new born baby.....	1
Diet, to 18 months	142	Gum-boils	99
" to 3 years	142	Gum, Red	137
" to 7 years	144	Gum Sticks & Rings	100
" After 8 years	146	Gums, lancing the.....	90, 91
" of School Children	151	" ulceration of.....	99
" Errors in	154	Hardening	160
Digestive Tea	17	Hardening the baby	20
Diphtheria.....	186	Hair, Girl's	162
Disease and Diet.....	154	Hands, cold	171
Dislike for Certain Food	154	Hare-lip	110
Dressing the Baby	10	Head, opening in.....	106
Drink	150	" lengthening of	107
Drinking Cold water	46	" swelling of scalp	107
Drying the Baby	6	" lifting by	167
Dysentery	132	Head, Blow on the.....	175
Ear-Ache	136	Headache	124 185
Ears and Nose—Washing	27	Health Hints for Mothers during the month	15
Ear—Substance in	182	Heart Tonic	23, 21
Eating, over-eating, rapid, indul- gence	141, 155	Hiccup.....	121
Eczema.....	99	Hooping Cough	186
Eggington's Feeding Bottle	63	How to wash a young child	23
Eruptions of Skin	99	Hydrophobia	180
Excitement	39	Inactive life	166
Excoriations	30	Incubation for Infants	11
Exercise, outdoor.....	39, 164	Indigestibles	155
Exercise in Winter	165	Infants' Clothing	38
Eyes, Inflammation of	109	Infants' Sleep	44
Eye—Quick-Lime in	181	Infants' Diet	50
Eye—Substance in	181	Jam	145
Face, disfigured	107	Jaundice	108
" drawing up of	124	Leech Bites	115
Farinaceous Food	73	Light, artificial	47
Fat	145	Lungs, Inflammation of	98
Feeble Infant	11	Lying-in Room, ventilation, temper- ature, quiet and rest	21, 22
Feeding the Baby, errors in	11	Malted Food	78
Feeding Bottle, cleaning, &c	63	Management of Childhood till Puberty	140
Feeding, position of child	65	Matches	179
Feeding with Sterilized Milk	69	Matthews' Fuller's Earth	6, 28, 30
Feet, cold	171	Meals and over-eating	141
Fever, slight	96	Measles	184, 185
" high	97	Meat	142, 147
" severe cases	97	, too much	142
" ve	185	Meconium	11, 13, 14
Fish	147	Mellin's Food	74, 78
Fires in bed-rooms	47, 173	Menstruation and suckling	86
Fits during Teething	92	Milk Abscess	15
Flatulence	128		
Floor Crawling	43		
Flowers, Plants, &c,	49		

	PAGE
Milk, excessive flow of	20
Milk Fever	15, 20
Milk, preparing for bottle.....	64, 65
Milk, scanty flow of	21
" sterilization of	66, 67, 68
" temperature of	71
" condensed	71, 72
Mother, lying-in, diet for, alcoholic stimulants	15, 17
Mother's Milk Food	78
Mother's mark	138
Mother's Milk	53
Motions	111
Mouth and Throat, how to examine.....	114
Mouth, inflammation of.....	119
Mumps	186
Napkins best kind	10, 11, 33
" washing	30
Narcotics and Sedatives	96
Navel	1
" String, attention to	6, 7, 8
" bleeding of, and how to stop	7, 8, 9
" rupture, treatment for	9, 10
" separation of.....	8
" troubles	107
Nævous	138
Neck crawling	43
Nervous system	49
Nettle rash.....	137
Nettle Stings	180
Night clothing	48
Night Gowns	173
Nipples, short and small, treatment	13, 17
" sore, treatment for, and how to avoid	17
Nipple Shields.....	18, 19
Nose, stuffing of	113
Nose—Substance in	182
Nose Bleeding	183
Nurse, choice of	59, 60
Nurse, health of	61
Nurse, wet	58, 59, 60, 61
Nursery	56
Nursing	38, 43
Oatmeal	25
Over-eating	44, 155
Over-laying a child	47
Palate, cleft	110
Paralysls, one side of body	123
Pastry	147
Perambulator	41
Pins	32
Plants, Flowers, &c.	49
Play, boys and girls together	166
Poisoning	183
Powdering after bath.....	28
Pregnancy and suckling	85
Pure air	94
Purging and Diarrhoea	97
" new-born babe	112
Quick-Lime in Eye	181
Rain Water	24
Rauschke's Nursery Thermometer	24
Red Gum	137
Restlessness and the remedy	44, 45
Rnbinson's Patent Barley	72, 73
Rocking to sleep	48
Rubbing, after bath	28
Salt, for bath	29, 30
Sanitation and Smallpox	105
School life	153
" " its dangers to health	153
" " children, diet of	153
" " poor appetite	154
" too much	166
Scarlatina	184, 185
Scarlet Fever	184
Scalds	177
Scurf	161
Sea-bathing	162
Sea-bathing, forcible	163
Secretions	22
Sexual emotions	23
Shoes	36
Shortening	35
Singing	170
Sitting up	38
Skin, eruptions of	99
Skin-Grazed	175
Skin yellow	108
Slavering	92
Sleep	173
" baby must sleep alone	47, 48
" never wake a child	46, 47
" regular hours	64
" time required, want of, restlessness	44, 45
Smallpox Specific	106
Soap	25
Soap, too much	29
Sore-throat	119
Spirits	5
Sponging, extra	29
Sponge and flannel	25, 26
Sprains	180
Sterilization of milk	66, 67, 68
Still-birth	2
Stimulants	151
Sting of Wasp and Bee	179
" Nettle	180
Substance in Eye	181
Substance in Nose or Ear	182
Suckling the thumb	100
Suckling	19, 49, 50, 51, 54, 55, 56,
"	57, 84, 85, 86
Suckling child, how to hold, &c.	54, 55
Sufocation of Infants	47
Sugar	71, 83, 148
Sunlight, a tonic	22
Sunshine	167
Supper, for young child	145
Swallowing Pins, Glass, Coins, &c.	182
Swelling of hands and feet during Teething	99
Swelling of neck during Teething	99
Sweetmeats	82

	PAGE		PAGE
Teaching to Walk	41, 42	Vaccination, Signs of Successful	102
Tea and Coffee	142	Scabs	103
Teething	87	" The Bowels during	103
Teeth, Babies born with	88	" The Evils of	103
" names of	88	Vegetables	147
" first	88	Veils	40
" cleaning the	158	Ventilation of Lying-in Room	21
Teething, effects of	89, 90	Vomiting	105
Teething a critical period	93		
" Diet during	95		
" Bowels during	95		
" Effects on the Lungs	98		
" Cough	98		
" Second	157		
Thermometer, nursery	24		
Thermometer, use of	184		
Thrush	116		
" Malignant	118		
Temperature of warm bath for baby	5		
" of Lying-in-room	21		
Temperature and sleep	47		
Temperature, of weather	40		
Tonue Tie, how to cure	12, 110		
Tonsils, enlarged	113		
Towels	26		
Toys	164		
Truss	107		
Underclothing for Babes	31		
Universal Digestive Tea	17		
Union Jack Rolled Oats	81		
Urine, Retention of	111		
Vaccination	101		
" Inflamed Arm	103		
		Walking	41
		Walking, going out warm	164
		Warm Baths	5, 94
		Washing the eyes after birth	3
		Washing the head	161
		Washing the Baby	4
		Washing, during first three years, articles required, water, tempera- ture, Soap, &c	23, 30
		Washing and bathing between 3 and 10 years	159
		" after 10 years	163
		Water	24, 157
		Water, cold, to feet	162
		Weather, cold, warm	40
		Weaning	83
		Weaning, time for	83
		" Child's health	86
		" Progress of Teething	86
		" Gradual	86
		" Sudden	87
		Wet-nurse	58, 59, 60, 61
		Wheezing	111
		Winter, exercise in	165

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"As a public speaker and singer, I always find it invaluable for clearing the voice. It acts like magic on my children for throat and chest complaints, and I have known it save life, when given up by three physicians."—JOHN BAILEY, Pastor, P.M. Church, Ramsgate.

**For outward application, instead of
poultices, use**

OWBRIDGE'S EMBROCATION.

**It is much safer, more effective,
and less troublesome.**

Prepared by

W. T. OWBRIDGE, Chemist, Hull.

Sold everywhere in bottles,

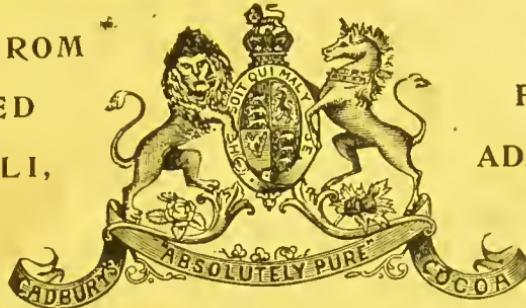
at 1s. 1½d., 2s. 9d.,

4s. 6d., and 11s.

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"The standard of highest purity attainable." — LANCET.

CADBURY'S COCOA

Absolutely Pure, therefore Best.

CADBURY'S COCOA is at once a refreshing, stimulating drink, and a nutritious food—probably more nourishing than any other beverage. It is light, refined, and digestible, and can be safely and beneficially taken as an article of daily diet at ALL TIMES and ALL SEASONS.

CADBURY'S COCOA is closely allied to milk in the large proportion of flesh-forming and strength sustaining elements that it contains. It is prepared on the principle of excluding the superabundance of fatty, indigestible matter; supplying a refined thin infusion of absolutely pure, exhilarating, and refreshing Cocoa which gives strength and staying power, and imparts new life and vigour to growing Children and those of delicate constitutions.

